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STORIES

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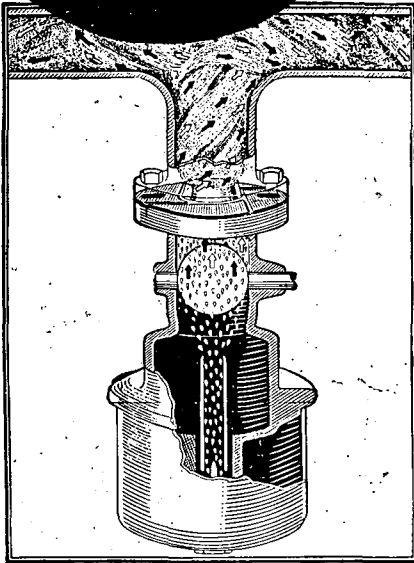
**When  
the Comet  
Returned**  
by Harl Vincent

**Beyond the  
End of Space**  
by John W. Campbell, Jr.

**Martian & Troglodyte**  
by Neil R. Jones



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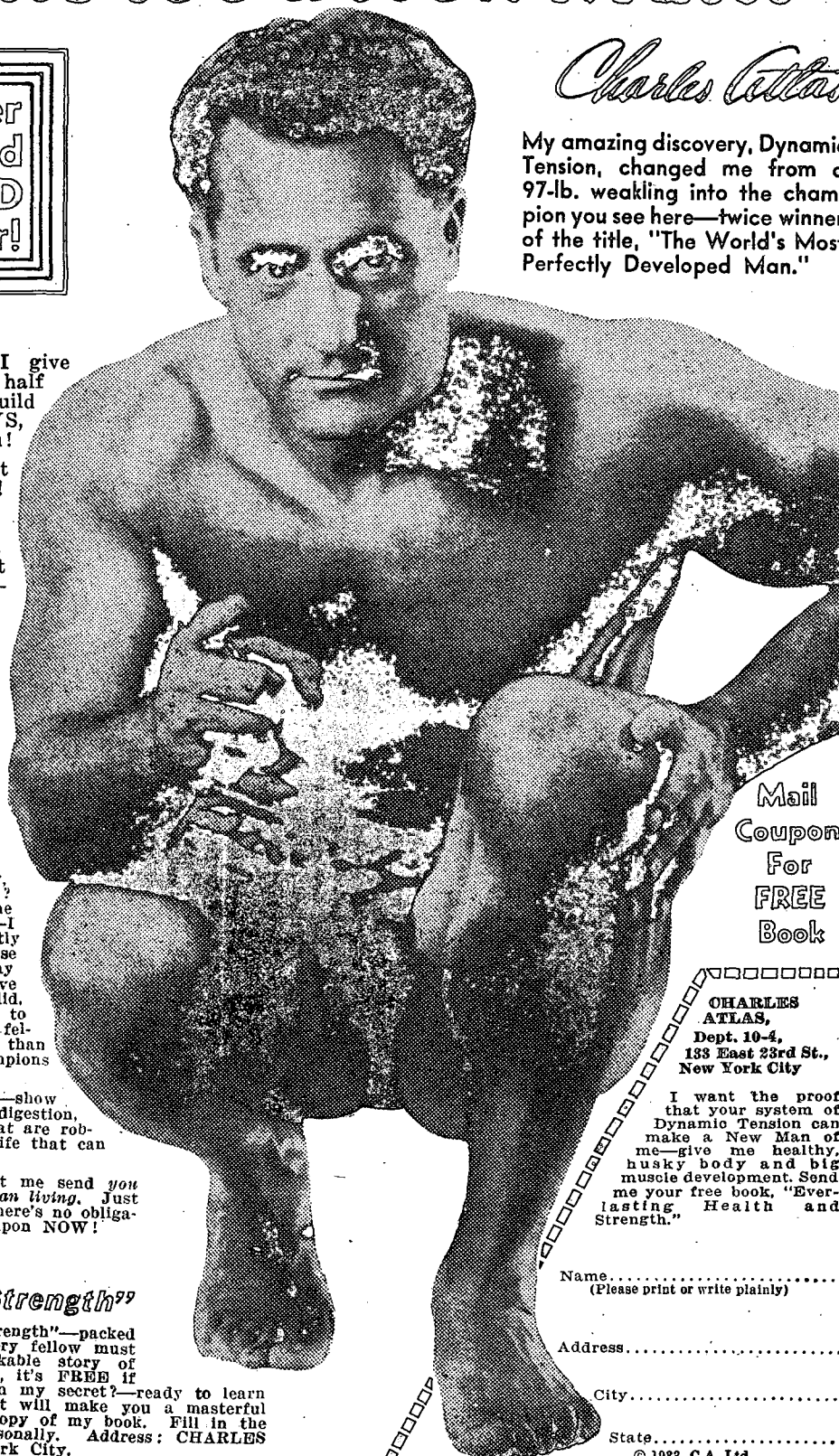
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# AMAZING STORIES

## *Scientific Fiction*

Vol. 8

April, 1933

No. 1

### *In Our May Issue*

**THE DEATH DRUM**, by A. Hyatt Verrill. This is an impressive story of the jungle of South America and of the strange instrument of destruction termed the "Death Drum." Mr. Verrill has had some very remarkable experiences among the Indians in the telegraphing of information over many miles by the sound of drums.

**MARTIAN AND TROGLÖDYTE**, by Neil R. Jones. We are sure that our readers will enjoy this unusual story. The author is well known to our readers and he certainly has the art of giving a vivid and lifelike aspect to his work. It brings together the troglodytes, the old-time cave dwellers of the earth, and the Martians and carries us through several exciting crises.

**THE THREE SUNS OF EV**, by Edwin K. Sloot. In this story one of our most popular authors takes us out into space to a strangely populated planet and brings out a bit of heroism on the part of one of the characters, which is quite impressively given. On this planet there are strange and intelligent beings, and the interesting plot is beyond one's power to comment upon. You will have to read the story.

**JEREMIAH JONES, ALCHEMIST**, by P. Schuyler Miller. The *Daily Press* has unfortunately been obliged to give many columns to the work of the underworld, and here we have the achievements of criminals depicted in what may be justly termed a science-fiction story. It makes an unusual and highly interesting combination. We can truly say that we are very glad to give a story by P. Schuyler Miller.

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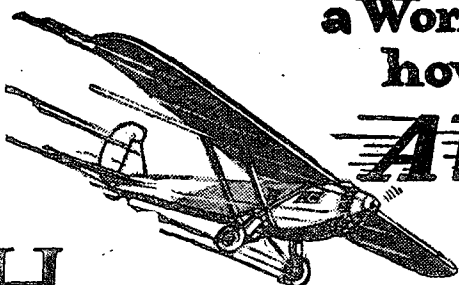
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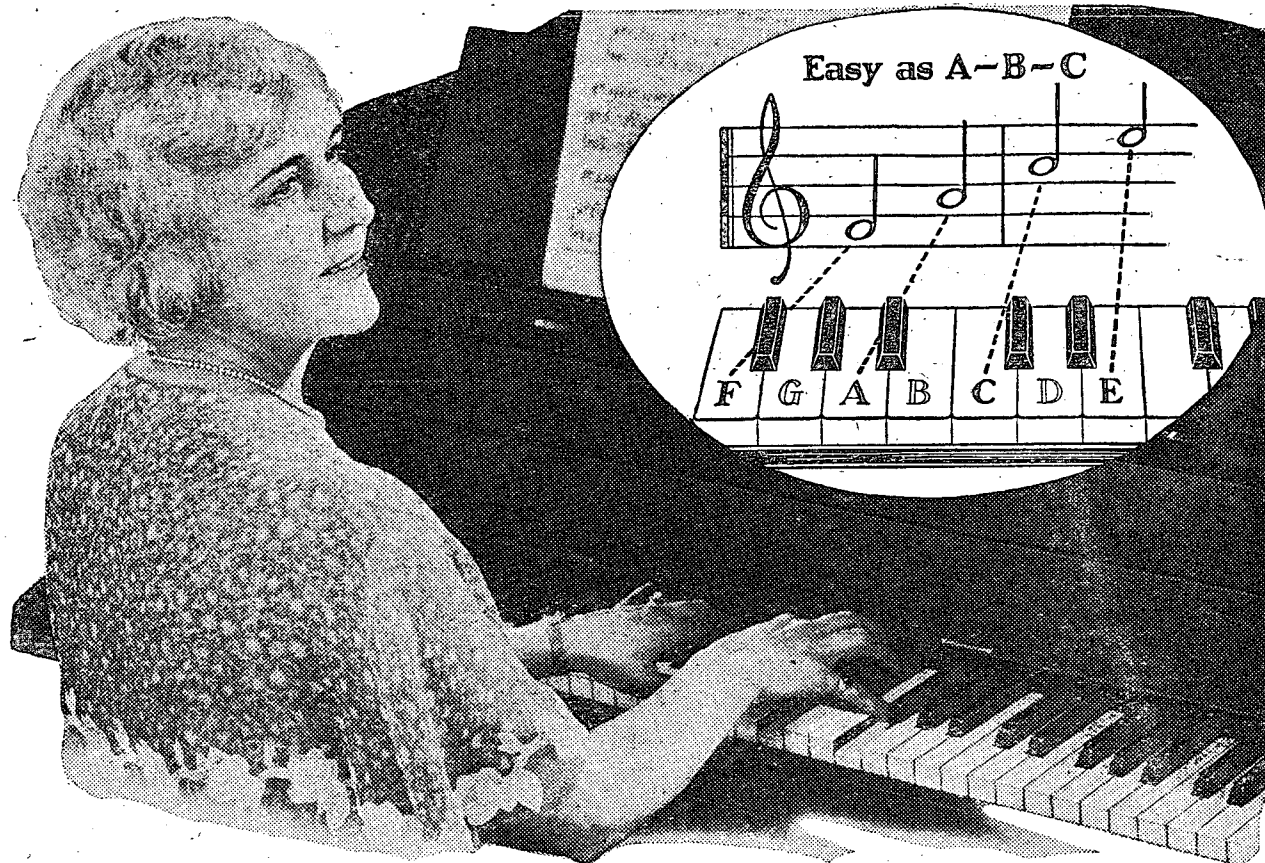
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# AMAZING STORIES

## THE MAGAZINE OF SCIENCE FICTION

VOLUME  
8

APRIL, 1933  
No. 1

T. O'CONOR SLOANE, Ph.D., *Editor*

Editorial and General Offices: 222 West 39th Street, New York, N. Y.

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*Extravagant Fiction Today* - - - - - *Cold Fact Tomorrow*

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## Heat Engines

By T. O'Connor Sloane, Ph.D.

IN our last issue, we spoke of Archimedes, one of the greatest natural scientists of the age in which he lived. Hieron, the so-called Tyrant of Syracuse, was a patron of learned men and poets and even competed in the Grecian games. A reaction steam engine which for nearly two thousand years figured as a little toy or scientific curiosity, is named from a philosopher and mathematician of that time, and is generally alluded to as "Hero's Steam Engine." This Hero must not be confused with the monarch of similar name.

Centuries after the days of Archimedes and Hero the steam engine came into its own and was used in industry. One of the earliest types was a cylinder with its piston and piston rod inverted or not, according to the construction required, steam at pressure was introduced from a boiler. This forced the piston to the other end of the cylinder either up or down according to how it was mounted. Then a jet of water was injected into the steam-filled space, condensing the steam, and producing a vacuum, so that the pressure of the atmosphere drove the piston back to the other end. This of course, was very crude. The injection of water directly into the cylinder was most effectual in creating a vacuum, but reduced the temperature of the metal and thereby worked against economy. The valves used to be operated by hand. A boy stationed at the engine had to manipulate them.

We all know the story of the ingenious youth who, finding the job somewhat monotonous, managed to tie the handles of the valves to some moving parts of the engine so that it opened and shut them without his

having anything to do. This gave the self-contained reciprocating engine. Everything was crude about it, the packing was of hemp or some organic material. Piston rings had not been dreamt of and after a while the system of condensing the steam inside the cylinder was departed from and the steam was allowed to escape into the air. Next the exhaust steam was led into another chamber where it was converted into water, creating the vacuum without cooling the cylinder walls and piston. This invention, the condensing steam engine, was due to Watts and was one of the great inventions in the domain of the steam engine. Speaking in a general way, it made it possible to operate the engine at nearly fifteen pounds less pressure of steam, than when the exhaust was blown directly into the air. The engine which departed from the condensing of steam within the cylinder and which blew the exhaust out into the atmosphere had to have a pressure exceeding that of the atmosphere. Watts' invention was called the condensing engine, and on account of this gain of fifteen pounds, was spoken of as the low pressure engine. Yet as we have seen from the very earliest engines, one of the crudest of the prime motors of the eighteenth century was a condensing steam engine and theoretically could be run with a boiler pressure only a pound or two above the atmosphere, which certainly made it deserve its name as the low-pressure steam engine.

Everybody knows how the reciprocating motion of a cylinder is converted into rotary motion by turning a crank. The great object of engineering science is or may be stated as the turning of a wheel. Imagine

taking all the wheels out of a factory; there would be no way of driving machinery without them, so the reciprocating engine does all its work by producing rotation.

**B**UT there is an engine coming into extensive use which is without any reciprocating motion. It may be described as a mill going around by steam, or metaphorically might be called a steam windmill. The ordinary reciprocating steam engine works by direct steam pressure. The steam turbine, which is the one last alluded to, whirls around at high speed by what is termed reaction. No matter how direct acting it may be interpreted as being, reaction can always be found in a turbine. Some of the largest and fastest ships on the ocean are driven by turbines.

A good illustration of the reaction of steam may be obtained by noting the kick or recoil of a gun. The piece is driven back so as to produce its recoil, because in driving the gas of combustion out of its mouth or muzzle reaction forces the piece back.

It is said that old time sea-captains, when pursued by a pirate or an enemy used to fire cannon over the stern of the ship so that the reaction or "kick" of the gun would help the ship along.

It is perfectly fair to say that the steam turbine which gives rotary motion at once with no conversion from reciprocation, and even now on the road of development and improvement, is the highest type of steam engine. It has come into use and been made practical within a very few years. And now, suppose we want to find the date of the first steam turbine, remembering that a decade or so ago it was regarded as a very minor affair, whereas now it is used for engines of thousands of horsepower. Only a few years ago, from the practical engineering standpoint, it was non-existent.

It is a matter of astonishment that the date of the first steam turbine is nearly five centuries before the Christian era, not two or three decades before the present day, but nearly two thousand years ago. And this was Hero's steam engine. A little vessel was mounted between two pivots so as to be in balance and to rotate freely. It had one or more spouts issuing from it, in a general way tangential to the circle of its motion and the little boiler was heated so as to generate steam. The steam entered the "engine" and issued from the spout or spouts in jets, forcing them backwards by reaction, so that the little apparatus would twirl around at high speed, constituting a true reaction turbine, perhaps more completely of the reaction type than the turbines of to-day.

**I**T is hard to believe that anybody but Archimedes was the inventor of it and it seems absolutely pathetic that mankind had to wait nearly twenty centuries before reaping the benefit of the invention, before the finest ocean liners were driven across the ocean at thirty knots an hour by an engine essentially invented and lying comatose for so many centuries.

Within a comparatively recent period, numerous at-

tempts have been made to produce a regular pressure engine which would give direct rotary motion without appealing to reaction in any sense, whose moving parts would simply be forced to run regularly and uniformly by steam pressing against them. None of them have been successful, while Hero's engine has come vigorously to the front.

If space allowed, it would be very interesting to follow up the development of the steam engine from early times. Some of what we consider old, primitive engines, were of very large size and developed remarkable economy, when all the imperfections of the construction are taken into account.

The great body of humanity which we call the public are getting very familiar with what we call reciprocating engines, as it is they that drive the automobile, but irrespective of the exact theory of operation, how many could say what is the absolutely essential and primary difference between the automobile engine which is one of a type and the regular steam engine? The difference is that in the steam engine proper the combustion of a fuel to do the work is done as a separate organization, the furnace, and it generates steam pressure in the boiler. Now instead of burning the fuel at a distance from the cylinder, let us suppose that we burn it directly inside the cylinder within the space on one or both sides of the piston. This constitutes what is termed the internal combustion engine, having no boiler, no furnace and introducing its fuel with the proper amount of air for its combustion into the cylinders and burning it there. Taking into account all the conditions of the case, it is fair enough to put these three prime motors, motors operating by the heat developed by the combustion of fuel, into three great classes. The one would be the reciprocating steam engine, the other would be the steam turbine; two great divisions of external combustion engines. The third one would be the gas engine, better entitled the internal combustion engine, where the cylinder is at once the pressure chamber to produce the reciprocation of the piston and is the furnace, literally speaking.

Few realize the refinements in construction that appear in the gasoline engine of the automobile. The fuel which is introduced into the space above the piston along with enough air for its combustion is burned there. A tiny electric spark is produced at the proper moment and ignites the mixture. It burns or explodes, the products of combustion should be carbon dioxide and water and a quantity of atmospheric nitrogen is necessarily mixed with them, but which takes no part in the reaction. The mixture is heated by the combustion so as to produce quite a high pressure to drive the piston through its stroke. The cylinder and pistons must be kept somewhat cool so as to enable the engine to be lubricated, but every bit of heat which is expended in heating of the cylinders is wasted. The temperature of the cylinder walls is kept down by water circulating around them, so that a large percentage of the power generated by the combustion is absolutely wasted in imparting heat uselessly to water.

Sometimes air cooling takes the place of water, but



the corresponding fault is there, heat is wasted in heating air. The combustion too is not complete and perfect, largely because of this necessity of keeping the metal cool. A considerable amount of carbon monoxide is produced, which is a colorless, invisible gas, without odor and a deadly poison when inhaled, and which is a product of incomplete combustion and indicates a waste of fuel.

It appears very clearly that the gasoline engine which does such wonderful work in automobiles is very imperfect mechanically and even involves danger to life if its exhaust gases are inhaled. Yet with all its troubles, the internal combustion engine is comparatively efficient and does excellent work and a little engine which a man can lift and carry about can drive a three-thousand-pound automobile at many miles an hour.

### Edisoniana

IT is now many years since Edison solved the problem of the subdivision of the electric light by inventing the incandescent lamp. When the electric light first appeared as a commercial proposition and for the lighting of streets and buildings, the arc light was naturally the one experimented with. The trouble with the arc light was that it would not work in parallel, because its resistance diminished as the light increased. Therefore, if a group of lamps were connected in parallel, it would be impossible to keep them at a uniform illumination, for some would run away with the energy and it would be a race to see which would get the most until burning-out would begin.

With the incandescent lamp this difficulty did not hold. It was found to be a very well-behaved lamp and the inventor undoubtedly had conceived of it as such. The only available substance for the filament at that time was carbon.

In England, it was firmly believed that electric lamps had to be in series. If forty or fifty lamps were in circuit, it would be impossible to turn one of them off without substituting a resistance. The effect of this was or would be to reduce utterly all pretense to economy. It would take just as much electric energy on such a circuit to operate one lamp as to operate all.

The following quotations from English authorities are rather interesting. Professor Tyndall was a very highly regarded scientist and lecturer. Preece was in the English Government employ as head of their telegraph system, and we give what they say about the subdivision of the electric light. Young Edison, the wizard of Menlo Park, as he was termed, was quietly solving the problem, and he produced the carbon filament vacuum lamp that was the predecessor of the present tungsten filament lamp and that lasted in its commercial operation for many years.

THE great Tyndall lecturing in January, 1879, at the Royal Institution, and referring to the hope-

lessness of the quest after the subdivision of the electric light, said: "Knowing something of the intricacy of the practical problem, I should certainly prefer seeing it in Edison's hands to having it in mine." A month later, Preece, one of England's great electricians, disposing of the subject before the Royal United Service Institution affirmed flatly: "Hence the subdivision of the light is an absolute *ignis fatuus*."

By connecting the lamps of uniform resistance between two parallel lines of a circuit, the lamps could be turned on and off individually without affecting the efficiency of operation. They were connected like the rungs of a ladder and the problem which was considered impossible was solved. This expression "subdivision of the electric light" was heard on all sides in early days whenever the subject of commercial use was spoken of, for commercial use has to be economical.

Very little has been said about the electric light bulb. The bulb of to-day is nearly the same as the bulb of years ago. Nothing is more remarkable in a small way in the incandescent lamp than the fact that the shape of the bulb was virtually established at the very beginning of things. Mr. T. Commerford Martin has published an interesting quotation of Mr. Edison's own words about the supply of electric power on the great scale. He studied a district in New York City where he intended to supply electric power and where he established the first electric power station. He said:

"I HAD a great idea of the sale of electric power to large factories, etc., on the electric lighting system; and I got all the insurance maps in New York City, and located all the hoists, printing presses, and other places where they used power. I put all these on the maps, and allowed for the necessary copper in the mains to carry current to them when I put the mains down, so that when these plants took current from the station I would be prepared to furnish it because I had allowed for it in the wiring. There were, I remember, 554 hoists in that district. In some places, a horse would be taken upstairs to run a hoist, and would be kept there until he died."

A good demonstration of the fact that the electric light bulb has persisted for years in practically the same shape is exemplified in the famous Hammer collection of electric light bulbs. The earliest ones compare closely with those of to-day, except that the little projection at the top of the bulb has been avoided and we have a bulb of a perfectly smooth contour. An illustration is given in the books of an old Edison lamp which had been in service for twenty years and it is very much the same as the lamp of to-day.

A most impressive tribute to the value of the invention is the fact that until a few years ago the incandescent lamp remained virtually unchanged, and then, with the production of tungsten wire, the only radical change in the lamp was made.

# When the Comet Returned

By Harl Vincent

*Author of "Power," "Thia of the Drylands," "Faster Than Light," etc.*

*THIS is a fascinating story bringing into action a specially interesting character, a sort of prophet of the ancient ages. A feature of the narration is a comet, and its flight through space. The development of the tail of the celestial wanderer, under the influence of the sun, plays a part in the plot.*

Illustrated by MOREY

## CHAPTER I

### Destination Unknown

**C**ROUCHED beneath the floor grating of the control room was an old man who made no more sound or movement than if he had been a corpse. His skinny fingers trembled on the metal rim enclosing the circle of thick glass that looked out into the void. He pressed against the steel hull plates of the ethership in deepest shadow, and the cold feel of the metal had been communicated to his very marrow. The dead white skin of his pinched face wrinkled unbelievably around the watery eyes that peered fixedly across the vast gulf of the heavens.

He had been thus hidden for what seemed like an eternity. And with the passing of time a ghastly fear of the infinite had struck deeper and deeper into his soul. He could not have summoned strength to raise himself from his position even had he wanted to do so. It is a horrible thing, this terror that comes to mortal man when first he travels between the planets.

### Stowaway in a Space Ship

The stowaway knew that the ethership was many millions of miles from its starting point, and his mind pictured the vast distance as a bottomless abyss into which he must inevitably be plunged headlong. Out there, separated from him only by a few inches of metal and glass, was the enormity of the cosmos. The blackness; the thousands of millions of stars, seen far more brightly than from his native land—clear and steady, the light of these stars, without the intervention of an atmosphere.

Directly ahead, there appeared suddenly one that was brighter than the rest. It was distinctly orange in

color and was growing larger as the old fellow watched with fascinated eyes. Drawing nearer rapidly, it was; rushing toward him. It came to him devastatingly that this was a planetoid of considerable size and that it lay in the path of the hurtling ethership. At this terrific speed a collision would mean swift and utter annihilation.

**T**HE old man remembered. He was no fool when it came to academic knowledge of the heavens. And, besides, he had heard them talking of the vessel's course. He knew that this was Pallas, an asteroid some three hundred miles in diameter, and that the route they were following intersected its orbit.

Now the body was distinctly an orb, growing ever larger as it drew nearer with breath-taking rapidity. Larger and more menacing in each second of time that passed. Mottled patches showed on its surface—irregularities of contour. It loomed as large as the nearer moon of Mars in his vision. Still larger, still nearer, and yet the ship did not swerve from its course to avert the impending catastrophe. The old man would have called out to the pilot up there at the controls but his tongue clove to the roof of his mouth.

He was trembling in every limb; paralyzed with fear. Now the asteroid filled his entire field of vision. It seemed they were deliberately nose-diving to a crash on its broken surface. There was a fleeting glimpse of tall shadowed spires and rugged valleys. Lakes of sulphurous, curling vapor. A blur of tortured, rock-strewn landscape flinging upward to meet them. The stowaway visioned a twisted mass of metal and machinery at the base of one of those pinnacles. That would be the last of the ethership.

There was a pressing of the hard metal of the inner hull against his stiffened joints. Abruptly Pallas was gone from sight. Already it was thousands of miles





*They were in the extreme lower portion of the vessel here. At their feet was the thick glass of a large circular viewing port. Kal Turjen dropped to his knees at the port rim and the others followed suit just as a bulky object dropped away from the hull.*



astern. They had cleared the body by an ample distance and were safe.

But the watery eyes were no longer at the small port to see; the aged stowaway had fainted.

And, all unknowing, the man above kept to his controls. . . .

THERE is little in the way of heavenly phenomena that can come as a surprise to the pilot of a twenty-first century ethership. To him there is nothing at all of mystery in the smooth functioning of his speedy vessel. He has grown accustomed to the vast distances of outer space. Difficult landings or take offs are merely routine matters, whether on planet of satellite, asteroid or fueling ship. The risks of his calling never seem of consequence excepting on those extremely rare occasions when there may be danger to passengers or cargo.

This is especially true if his ship happens to be one of the big rocket-propelled liners that are engaged in regular commercial service between the inner planets. His job then is an unromantic one—in his own mind, at least—and as monotonous as any in which a man might be engaged for a period of years.

### The Story of the Planetary Patrol

BUT surprises there are, and mysteries galore, if he has the good fortune to command one of the scout ships of the Planetary Patrol. Or better still, a dual-powered vessel such as those chartered for the long trips to the outer reaches of the solar system that are sometimes made by private or government-commissioned parties in the interest of science. Then, of all times, it is most likely that any craving for adventure he may have been nursing will be fully gratified.

Ridge Coler, long in the service of the Interplanetary Lines and a pilot of top rating, found himself in the much-desired latter circumstance after several uneventful years on the passenger liner *Meteoric*. Only the day previously, bored with the life, he had been about to quit his employers. Then had come the unexpected, the shift to an expeditionary ship, and the master pilot's ticket. And now, with his hands on the controls of the *Ariel* and with the little vessel's blunt nose pushing out toward the orbit of Jupiter, he had completely forgotten his former restlessness and dissatisfaction. No assignment could have been more to his liking.

Best of all, he had managed successfully in the matter of his Martian friend, Kal Turjen. Without the big coppery-skinned fellow who had been his companion in so many undertakings, Ridge would have refused to take over the *Ariel*, no matter what the cost. But Kal was along as first engineer and the young pilot was content.

THEY had taken off the day before from Risapar, capital of the Canal Cities Union and space port of Mars. And Ridge had not the faintest idea of their destination. All he knew was that the charterers of

the vessel were three in number and were scientists from the inner planets. The Terrestrial, Sir James Beveridge, astronomer and physicist of note, was leader. Lin Trovag, Martian authority on celestial mechanics, and Voliras, renowned chemist and metallurgist of mist-shrouded Venus, were the others. Beside these things Ridge knew that Sir James had instructed the *Ariel's* owners that the first leg of the journey was to be on a course plotted with 61 Cygni as target star. Further information was to be supplied enroute by the terrestrial scientist.

### A Silent Group of Passenger-Scientists

THOUGH an earthman himself and expecting that the bond of common nativity would be recognized by the older man, Ridge found Sir James singularly uncommunicative and difficult of approach. Scarcely a dozen words had passed between them. And these in Sol-ido, the universal language of interplanetary travelers. Immediately after the takeoff, the titled astrophysicist had closeted himself with his confreres in the observatory dome of the vessel and had remained there almost continuously. A preoccupied lot, these scientists.

The *Ariel*, powered with the positive and negative gravity force generators as well as rocket motors, was one of the swiftest ships of space yet devised by man. She had long since accelerated to the speed of two thousand miles a second. When they had passed the asteroid, Pallas, Ridge set the controls in position for automatic piloting and turned to the small optophone that communicated with the engine room. Kal Turjen's broad face flashed in the viewing disc a moment later, the inevitable cigaret dangling from his lips. His black eyes were alight with enthusiasm; the powerful atomic engines of the vessel had roused his keenest appreciation of fine mechanisms.

"Full automatic operation," Ridge sang out, "we're in the belt of asteroids now and maximum repulsion energy may be called for."

"Right, skipper," grinned the Martian, "Then I'm coming forward for a chat. What do you say?"

"I say you'd better. I feel like talking."

Ridge turned to the navigating telescope as his friends image and voice cut off. He saw that his target star was still centered on the cross hairs. With the automatic controls functioning, it would remain so until such time as a change in course was desired. With gravity attraction intensified in that direction and full repulsion maintained astern, there could be no deviation. And the speed to which they had accelerated would be kept constant by occasional blasts from the rocket tubes aft.

The heavens, as seen with the naked eye through the forward port, presented a vast expanse of black velvet studded with myriads of pin-points of unflickering brilliance. In the televisior plate that gave the view astern, Mars was a swiftly dwindling orb of dull brick color with a crescent of light at its edge. To one side and behind it was the blazing furnace of the sun, casting its



## CHAPTER II

## Legend of the Drylands

streamers of blinding incandescence hundreds of thousands of miles into space. Out here in the asteroid belt it was losing its immensity and magnificence by virtue of the rapidly increasing distance.

THERE was the sudden clicking of relays back of the main control panel and the vessel throbbed gently to the quick loading of the force generators. A scarcely noticeable thump followed, and Ridge knew that an asteroid had caromed off the repulsive gravimagnetic field which had enveloped them momentarily. The droning song of the force generators slid off down the scale as their load was released. And Ridge marveled anew at the perfection of automatic controls and approach detectors that made this safety possible in so dangerous a region.

Through the thick glass of the forward port and in the viewing plate the aspect of the heavens was unchanged. No planetoids or other near bodies were visible, though at any moment one of perceptible size might loom out of the blackness and pass swiftly astern. The one that had just been avoided was probably not larger than an orange and was therefore too small to be seen at this speed. But, had it not been for the protective energy of the automatic mechanisms it would have burst through the triple steel hull of the *Ariel* as if it had been of paper. And if one the size of Pallas were to be encountered without foreknowledge of its proximity. . . .

"Imps of the canals!" Kal Turjen's voice boomed from the companionway, "What's this?"

Ridge untangled his long legs from where they had twined in the pedestal members of the pilot's seat and turned around. What he saw roused him to instant activity and he went to the help of his friend.

Coming up the open iron steps, Kal had glimpsed something underneath the floor. A something which appeared to be no more than a bundle of tattered clothing. Ridge, lending him a hand, was amazed to find his fingers close on the emaciated arm of a human being.

They raised the limp body and brought it out into the light. A pitifully small and wizened form it was that they stretched on the grating. The face of the unconscious man had the unhealthy pallor of the drylands of Mars. It was the face of an ancient—a dweller of the desert, whose age might only be guessed.

Ridge bared the bony chest and laid his ear on the clammy white skin of it. "He has only fainted," he said, rising, "Poor devil; he was probably homeless and starving. Crept in here when the ship was berthed."

Kal was examining the wrinkled features intently. "This one is a witch doctor of one of the inner provinces," he declared, "I'll lay a bet on that."

"Um-yes. I believe you. But we'll have to care for him. I'd expect him to be better company than the scientists, at that."

Ridge lifted the aged drylander to his broad shoulders and marched aft where a number of empty cabins were available.

THE old fellow told his story after they had revived him and plied him with hot soup and vitamin pellets in generous quantity. And the tale he related was a strange one indeed.

Nyu Varon, was he; Oracle of Neren-teu, noted mountain shrine in the forbidden province. A thousand and twenty-seven years, he averred proudly, had passed since his name was first revered by the faithful in the drylands. And still that name was one with which to conjure, name of the true prophet of the gods of the comet, Oni, Dis, and Tur.

He was an old man in those days of yore, even as his listeners now saw him, and more than ten centuries of time had not aged him further. It was he, the prophet, who had been favored of the comet gods. The blessing of immortality They had conferred upon him, and the wisdom of ages. And now was to be fulfilled the prophecy of old. A thousand and twenty-seven years ago had the comet been Nyu's visitant; in this glad day was Nyu to go to the comet.

The shriveled patriarch spoke with utmost dignity in a dryland tongue that Ridge had some difficulty in following. Still the pilot did not miss the import of the recital. He dropped a solemn eyelid as Kal Turjen's gaze met his own.

But the big Martian was in no scoffing mood. "I've heard the legend before this," he whispered in Sol-ido, "Let's hear the rest."

It was inconceivable that Kal should take any stock in the yarn the old mystic was spinning. Ridge made a quick mental conversion of Martian years of 224 days into earth years of 365. If what Nyu said was true, approximately 630 terrestrial years had passed since this miracle of which he spoke so glibly. And the prophet's age would be of the order of seven centuries as time is reckoned on earth.

## An Ancient of Days—A Prophet from Mars

THE voice of the stowaway continued placidly and his watery eyes cleared as he talked. There came into his rapt gaze a radiance that might well have been inspired by the obscure deities of his cult.

"Now indeed, my children," he went on, "is the day of the prophecy at hand. Nyu is traveling out through the darkness into the light; he goes to the abode of his gods in this vessel of the heavens that was fashioned by mortal hands. It is as it was decreed. It could not be otherwise. And to you who have been the unwitting agents of my most worshipful Masters will accrue the richest of rewards. So it was written in the tablets of stone and so it shall come to pass."

All this was so much gibberish to Ridge Coler, but Kal seemed to be taking it in all seriousness. "Look here, Nyu," the pilot interjected, "You stowed away in the nose of the *Ariel* and are here whether we wish it or not. The offense you've committed is serious; I might put you in irons, but I'm not that kind of

a pilot. I'll see that you're fed and berthed and safely returned to Risapar. But I'm damned if you'll be taken to any comet. Come clean now and tell us the truth, why and how you come to be here."

The self-styled prophet did not understand and looked to Kal for enlightenment. There was a pathetic dignity in his expression that made Ridge instantly sorry for his words.

Exhaling noisily through his nostrils without removing his cigaret from his lips, the big Martian translated swiftly. And a smile of instant comprehension wrinkled the prophet's chalky face.

"It is but the will of the gods," he said, crossing his thin hands over his breast, "Nyu came because they sent him. More than a thousand years has the second coming of the comet been awaited. And this vessel of the heavens that was a part of the prophecy. The wise men of the three worlds who go out into the void to seek the comet. All is as it was written, even to the dancing flame of the drylands which was sent for the guiding of Nyu to the so great city where waited the ship of skies. There is no guile in the prophet of Oni, Dis, and Tur, my children. His pilgrimage was but in their service."

There was something touching in a faith like this. Ridge's throat constricted as long-forgotten memories returned to him of certain teachings of his own boyhood in far-off America.

"It's a queer story," he said to Kal, and there was no hint of ridicule in his tone. "We'll take him to Sir James. After all, you know, *we* don't know where we're heading."

Turjen's black eyes were fathomless. He was thinking of the age-old mystery of the drylands that spread their bleached sands over the surface of his own world in the vast areas between the canals. Of the white-skinned desert races that were so utterly alien in every way to his own—the more favored coppery-skinned dwellers of the canal city regions. Of tales of black magic that trickled through from the interior, and of myths that might never be understood by his own kind.

Nyu drew his travel-stained and ragged robe tightly about him and followed with cheerful assurance as Ridge led the way to the topside observatory dome.

SIR JAMES looked away from the eyepiece of the radio telescope with annoyance written large on his pudgy countenance. He was a beefy individual with bald pate that contrasted strangely with his beetling brows. A single-minded man and intolerant.

"Why this interruption, may I ask?" he said frigidly. Ridge explained.

Deep interest was manifested by Voliras and Lin Trovag, but the recital served only to make Sir James scowl the more darkly.

"A stowaway!" he grunted. "Then why is it he is not in irons?"

Ridge grinned disarmingly. "I've decided to take Nyu on as a member of the crew," he returned evenly.

"Preposterous! I shall not permit it."

Kal saw his friend's jaw muscles go taut. But the young pilot's tones were velvet when he made reply to the Terrestrial scientist:

### The Pilot Announces His Authority

"I GRANT you the expedition is yours, Sir James. But I am master of the *Ariel* and I intend to exercise my every prerogative as such. The crew is my crew, and the operation of the vessel is in my hands."

The scientist's brows raised at the effrontery of the rawboned youngster who dared to oppose his wishes. But his gaze wavered under those sword-sharp gray eyes.

"Oh, of course," he capitulated, "I know the law of space. But why must you bother me in my work with such nonsense as this?"

"Only because I'd like to know our destination."

Sir James forced a guffaw that was meant to be good-humored. "I thought you knew," he lied, "Odd as it may seem to you, we *are* keeping an appointment with a comet."

"Then there is something in what Nyu says?"

The scientist chuckled—seeming honest enough now. "The drylander has been delving into records of the ancient Martian astronomers. He learned what some of us have known for a number of years, that a certain large comet is due for appearance in our solar system at this time. His story has been fabricated around this scientific fact, that is all. And you, sir, have been duped."

"How then did he know of our venture?" Lin Trovag put in mildly.

There was something of respect in the way in which the Martian scientist had been regarding Nyu. Something of understanding.

Sir James snorted. "We have kept the matter secret, of course. But what assurance have we that this dryland beggar did not spy on us for his own advantage?"

Lin Trovag had no reply to this. Nor did the Venerian scientist enter into the discussion. But Ridge thought he detected an uneasy manner about them, a certain nervousness as if something was yet hidden in their minds that they dared not reveal. Sir James, too, was not any too sure of himself. It seemed almost that they feared Nyu.

Through it all, Nyu stood meekly aloof. His expression was of serenity and exaltation. Though he comprehended not one word of the Sol-ido they had been speaking, he was content. To him this was the fulfillment of his destiny. There could be no doubting the sincerity of that guileless countenance.

Kal Turjen was silent his broad face a gleaming bronze mask.

For some reason, Ridge's ire was rising. "I'd like to hear more about this comet," he said bluntly, "You must know, Sir James, that a thorough knowledge of astronomy is one of the first requirements of a space pilot. How is it that this mysterious body is not listed in our text books?"



The Terrestrial scientist's confusion was increasingly apparent but he replied unhesitatingly, if a bit over-anxiously: "For the very good reason that ancient records have been unearthed only recently. Your dryland witch doctor is correct in the period he has stated for the cometary body; it is one thousand and twenty-seven Martian years. And its return to us is now expected. It should intersect Jupiter's orbit at a time forty-nine hours after we left Risapar—when we shall have reached a near-by point in space."

"And your expedition is made merely for the purpose of getting observations out there before it has come in close enough to be seen by the telescopes of the inner planets?" A leading question, this of the pilot's, and so intended.

"Exactly, exactly." The relief of Sir James was obvious. "You perceive the intention most clearly, young man."

#### The Secret of the Comet—Its Reason Asked For

"UM-YES. But why the secrecy?"

"Why—why—it was to forestall the fears of the ignorant. Yes, that was the reason. You see, my good sir, this is reputed to be a comet of unusual size and velocity. Its appearance might be expected to create consternation among the less enlightened peoples of earth and her two sister planets."

"You hope to head off the celestial wanderer?"—dryly.

Sir James mopped his brow with a silken handkerchief. Great beads of perspiration had suddenly glistened there. "Not that, of course," he faltered, "but possibly to change its orbit. With—with the negative gravity flux of your vessel. Yes, that is our plan, if you get what I mean."

"Um-yes. I believe we understand one another perfectly." The young pilot turned on his heel. "It is all very interesting," he flung back over his shoulder, "and I'm sure you'd like to be left to your work. When you desire a change in our course you may use the optophone."

Below, in the narrow corridor that led to the control room, Ridge said with conviction, "Dirty work, Kal, mark my words. Sir James is a liar and he knows I'm onto him. We'll have to put every man Jack of the crew on guard. Look here—if these ancient records are so secret and exclusive, how could Nyu have known of them? And, as for altering a comet's orbit—grrr!—it burns me up to think he should consider us so simple as to believe him. Even though a comet's mass is small, its size is enormous, and no puny energies of a space ship could be hoped materially to alter its course."

"I take it you don't think there is such a body," said Kal.

"Sure I do, and I believe Nyu knows more about it than our fine scientists do. Or at least he is honest; they aren't. They're up to something that isn't in the contract with Interplanetary Lines, and we'll just have to sit tight until they make a false move. Then show them who's who and what's what."

The Oracle of Neren-teu was blissfully unconscious of their words. But the-wise old eyes of him were full of understanding. He needed no knowledge of the Sol-ido language to know the worth of men.

### CHAPTER III

#### Rendezvous in Space

IT was a peculiar situation and unlike any that Ridge Color had encountered in all his years of space travel experience. That there was no irregularity in the chartering of the *Ariel* he was certain. A copy of the legal instrument was in his possession and an examination of its provisions showed it to be entirely in order. The ship had been leased for purely scientific purposes. On the face of it, this was an expedition in no way differing from hundreds of previous ones that had been organized by other scientists. But he was convinced by the actions of these three—particularly of Sir James—that an unethical motive was back of the thing, and that trouble of some sort might well be expected.

That so reputable a group of scientific men should engage in any shady undertaking was almost inconceivable. Yet all the evidence left no doubt in the pilot's mind that such was the case. Sir James and his two associates were planning something that was outside the pale of Interplanetary Law. And they were inexperienced in law-breaking; their clumsy efforts to conceal the real intent of the venture made this obvious.

Ridge was able only to speculate as to the nature of their plans. Certainly the comet had something to do with them. But in what way, he could not even imagine. It must be a matter of tremendous importance thus to involve three such noted savants.

And the appearance of Nyu Varon in the picture was most puzzling. At this moment the gentle-mannered witch doctor of the drylands was below with Kal Turjen. Ridge had sent them from the control room and told his friend to outfit the old fellow with clean clothing and to see that he was bathed and shaved and otherwise made presentable. The big Martian would undoubtedly question Nyu in detail. Then perhaps they might be able to fit together the pieces of the puzzle.

#### Taking Care of the Ancient Prophet

HUNCHED over the controls and with his long legs seemingly inextricably entwined in the latticed pedestal of his seat, Ridge gazed earnestly through the navigating telescope. But he saw nothing out of the ordinary in the ebon depths—only his target star, precisely centered on the cross hairs, and other familiar bodies that lay approximately in the *Ariel's* line of flight and were thus visible in the limited field of the glass.

He had hardly expected to see the comet anyway. Not if Sir James had stated its distance correctly. The sun now was 300,000,000 miles astern; there still remained 183,000,000 miles to travel before they would reach the orbit of Jupiter. And a body so tenuous as

a comet would not be luminous at a distance that must be even beyond that.

All things considered, Ridge was much enthused over the prospect. There was a mystery to be solved—several of them, in fact. A long shot into the heavens and the possibility of viewing one of the oddest sights of space at close range. Perhaps, even, a battle with these three who were so mysteriously at work in the observatory dome.

He thought of the possibility of a prearranged meeting with space pirates and sat erect with a jerk. But no, that couldn't be it. The day of those fierce outlaws of the space lanes had passed with the advent of the Planetary Patrol. Besides, this would be too far out.

An hour passed while he pondered the situation. Then Kal Turjen came into the control room, laughing.

"Nyu went out like a light," he announced, "I got him cleaned up and looking great. Then he went to sleep on his feet. I had to carry him to his bunk."

"What of this story of his—did you get any more out of him?"

The Martian frowned as he lit a fresh cigaret from the half-inch butt of his last. "Not much. He was too tired to talk. What he did say tallies exactly with the first tale. Seems like he's the prophet. This comet wagged its tail over his mountain shrine more than ten centuries ago and the gases or something fixed him up so's he'd live forever. He's been a lesser deity to his followers ever since. The gods of the comet had promised him they'd be back—now. Back to the solar system to sweep him into their bosom. Three wise men of separate worlds were to be sent to take him. And so—"

Turjen spread his huge hands in a helpless gesture and sat on the pillar of the inductor compass. The instrument wasn't of any use out here in space anyhow and it provided a convenient seat.

"—Imps of the canals!" he concluded, "I don't know what to think about it all. What is this, a game we're playing?"

"Quite likely." Ridge regarded his friend soberly. "And, do you know, something tells me the little prophet is going to win it."

### Who Is to Win the Game?

THE ship's bell clanged then, interrupting them. It was the second dog watch and this meant four hours of sleep for the pilot. Don Harvey, his relief, walked in and Ridge outlined to him the happenings of the past few hours.

"And you are to ring for me at once if any suspicious move is made by one of the scientists," he wound up.

Five minutes later he was asleep in his own quarters.

Four hours later he awoke to find the situation unchanged aboard the vessel, with the exception that their course had been corrected very slightly and that the *Ariel* was some forty-three million miles farther distant from the sun. More than half the enormous distance

from Mars had been covered. The *Ariel* was doing well.

Harvey had nothing to report save the one instruction from the observatory dome, the one on which he had changed his course. Lin Trovag had retired to his cabin, but Sir James and Voliras were still working at their calculations and with the special apparatuses they had installed in the dome room. The scientists were sleeping alternately on a schedule of their own, and, during the waking hours, were having the ship dietician bring their meals to them where they worked.

Invigorated as he was by his sleep and a hearty breakfast, Ridge found that some of the puzzling occurrences of the first day did not seem so important. He was inclined to regard them more lightly now, but still resolved to keep a weather eye on the irascible Sir James.

And then he thought of Nyu Varon. Kal was off duty and deep in the arms of Morpheus, so Ridge went to the prophet's cabin alone. He found the ancient drylander awake and looking surprisingly well. It is amazing what transformation can be accomplished, even in the most ragged desert dweller, by the simple means Turjen had provided. Fresh attire, cleanliness, food and rest had done the trick for Nyu. But the old fellow, though he smiled benignantly, shook his head and refused to answer when Ridge greeted him.

He tried to explain by signs and gestures that conveyed no meaning whatever, then wrote painstakingly on a scroll that was among his few belongings. The pilot, after much labor in deciphering the angular characters of the dryland script he knew so incompletely, managed to gather that the prophet was engaging in a self-imposed penance. For twenty hours he must utter no word aloud, but must engage in abject communion with his gods. This for the reason that he, an immortal, had yielded to mortal fear when hiding in the nose of the ship of the heavens. Ridge recalled the close approach he had made to Pallas in the effort to see something of its surface and could not restrain a chuckle of amusement. But he left the old man with a curious sense of reverence stirring within him.

Space ship chronometers are divided into twenty-four hours which are based on the sidereal day as reckoned on earth. But never a day had passed so slowly for Ridge Color as did this one. He had longed for excitement and adventure and was getting this instead. With the *Ariel* under automatic control and with the three scientists keeping so closely to their mysterious labors, the chances of activity were nil. Nyu Varon might have provided some diversion, but even he had failed them.

### A Restless Pair

AFTER Kal had rejoined him it was not quite so bad. But they were both restless and ill at ease. They sat in the control room for hours on end, discussing the situation without arriving at any conclusion at all, and anxiously awaiting word from the observatory dome.

Ridge's position with regard to the men who had



chartered the ship was a delicate one. He was in full command of the *Ariel*, it was true, but the scientists were, in effect, the temporary owners. The pilot was responsible for the safe operation of the vessel and had sole authority over the crew. But he was likewise bound to take the chartering party wherever they desired to go and he had no jurisdiction over them as long as they made no demands that would jeopardize the safety of all. Nor could he restrain them in any activity that was not criminal.

His suspicions returned as the hours passed, but he had no real foundation for them nor had he any idea as to what he might expect. There was the possibility, of course, that his mistrust was without cause. The peculiar actions of the men up there in the dome room may have been occasioned only by the expectation of a momentous scientific discovery which they hoped to reveal to the inner worlds as a complete surprise. But . . .

That "but" was always an impasse when he came to it in conversation with Kal. Both men were sure in their own minds that all was not as it should be, yet neither could put his finger on the joker that must be there.

#### Approaching Great Jupiter

AT length they were within two hours' journey of the orbit of Jupiter. Only 14,000,000 of the original 342,000,000 miles remained, the latter figure being the distance separating the orbit of Mars from that of its next neighbor outward from the sun.

The optophone call shrilled wasplike and the florid countenance of Sir James flashed in its viewing disc. "We are in sight of the object we seek," he announced excitedly, "Three degrees to the east, Mr. Coler, and six seconds below the plane of Jupiter's orbit."

Ridge disengaged the automatic control mechanism and shifted to manual operation. During this watch Kal's relief was on duty in the engine room, so the big Martian remained at his side.

The force generators throbbed as the gravity energies shifted in response to the pilot's touch. And the heavens rotated slowly before them. Only through a small angle however; then they stabilized. A great, mistily luminous sphere appeared directly ahead, a transparent body with a tiny central core of considerably greater brilliance.

"You are dead on it," Sir James approved, "It is our comet. We want you to pass it and then turn in again toward the sun, slowing down and following the body in its orbit."

There was nothing in the man's deportment now that was unnatural or calculated to arouse suspicion or animosity. He was all scientist and intent only upon the matter at hand. Ridge began to believe he had done him an injustice.

"As you say, sir," he replied. The image and voice flicked off.

"Every comet I've seen had a tail," Kal commented disgustedly.

Ridge laughed. "So will this one, when it gets in

a bit nearer to our sun. What we see is merely the head, consisting of a nucleus surrounded by exceedingly minute particles of matter. By electrical repulsion and light pressure, the sun will force some of the particles to fly away in a brilliant streamer. That'll be the tail, when the body is close enough to the sun, and we'll be right in it when it gets under way."

"And Nyu shall be gathered up in the arms of Oni, Dis, and Tur," a calm voice announced from the companionway.

They turned to see the Oracle of Neren-teu standing with palms upraised, a fanatical and yet exalted gleam in his old eyes, Nyu's hours of penance had ended.

## CHAPTER IV

### Trailing the Comet

THERE was a simple earnestness about the prophet and an air of piety that had a strange effect on his listeners. Neither of them, in that moment, would have presumed to voice the slightest doubt of his sincerity or for that matter of the ultimate fulfillment of his prophesied destiny. No disciples of his own could have been more impressed or respectful. The child-like faith of him was communicated almost overwhelmingly to the two adventurers. For a fleeting instant they were ardent devotees of a creed they knew nothing about.

It was a physical manifestation of a spiritual force; a radiation of some sort that cast a spell over them. But the feeling passed off quickly and Nyu Varon, once more, was only a witch doctor of the drylands, albeit a singularly convincing and likable representative of his ilk.

Memory came to Ridge of certain experiments in which radiations from the finger tips of human beings had been found of sufficient strength to kill bacteria at a distance of many inches—and of the powers of mental suggestion credited to the highly intelligent frog-folk of the marshes of Venus. For some reason he shuddered, though it was impossible to conceive of the gentle Nyu as a conveyor of any influence, mystic or scientific, that would work to the harm of his fellow men. The pilot was not in the least degree superstitious, but there was *something* about Nyu . . . even now the old man's features seemed to be undergoing a transformation. Softening, somehow, and the deep wrinkles smoothing out. Ridge brushed a hand across his eyes and shook his head angrily to clear it. Hallucinations! This would never do.

Kal Turjen was first to speak and his words were flippant, as if to make light of feelings similar to his friend's. "Seems like we're all in the same boat—or ethership. You go to the comet and so do we, by the looks of things."

"Not so, doubting one. The gods call Nyu and none other. Your vessel of the heavens is destined to return to the red planet without the prophet of Oni, Dis, and Tur. Nyu goes alone to his gods."

### The Disappearance of the Prophet

RIDGE had been occupied with his controls during this speech and was watching the misty orb of the comet as he corrected for the ship's cosmic ray drift. He whirled in his seat at the sound of an explosive gasp forced from Kal's lips. The prophet was no longer in the room, and the Martian's eyes were bulging.

"What's wrong—where's Nyu?" asked the pilot.

"Imps of the canals! He's gone. One minute he was standing here and in the next there wasn't a sign of him. Either my eyes went back on me for a second or—well, fact is I'm beginning to believe in the dry-land black magic they used to tell us about, when we were tots."

"Go and look for him," said Ridge, uneasily, "He may have slipped out and gone to his cabin."

Kal lost no time in clattering down the iron stairs.

Ridge scouted the idea that the big Martian actually believed the drylander had vanished from his sight, or that anything of the sort had occurred. Positively Kal had let his eyes wander for a moment and Nyu, in his soft shoes, had padded down the steps. Or, it being well known that witch-doctors of the drylands were masters of illusion and hypnotism, the thing might well have been a trick to impress them. Though to what purpose the pilot could not imagine.

Shrugging his broad shoulders, he returned to the controls. The great orb of the comet was much larger now, and brighter. Making hasty determinations of its size and distance, Ridge found it to be a body more than a million miles in diameter and at a distance now of about 12,000,000 miles. Its orbital velocity was approximately four hundred miles a second, a speed exceedingly great for a comet and yet only a fifth of that of the *Ariel*. At their combined speed of twenty-four hundred miles a second, the two bodies were rushing to the tryst; the tiny vessel of space and the huge celestial wanderer. They would meet almost exactly in the orbit of Jupiter, though not in the vicinity of that planet, which was then almost opposite the sun in its path.

### The Tryst with the Comet

THE enormity of the comet was increasingly apparent to the eye; soon it would fill the entire heavens before him. Ridge knew that the mass of these mysterious bodies was small in comparison with the vastness of dimensions, and that the myriads of particles forming the outer and greater portion of the whole were sub-microscopic in size and so widely dispersed that the density was little greater than the absolute vacuum of space. Hardly more than gigantic spheres of luminous and extremely tenuous gas, were the comets.

Even now he was able to see clearly through the mass and observe the stars beyond it almost as if they were unobscured. The nucleus—still but a pinpoint of vivid brilliance in Ridge's vision—was, he knew, of greater density than the outer portion and presumably

made up of a mass of meteoric bodies of appreciable mass in themselves but still negligible when considered in relation to the entire body.

Peculiar objects—freaks of creation, these bodies.

Ridge altered the vessel's course slightly so that they headed for the circumference of the huge sphere rather than for the nucleus. He was to pass the body and then turn back to follow it, Sir James had said.

Kal Turjen returned then, grinning shamefacedly. "You guessed it right," he admitted, "Nyu is safe in his cabin. I must have been seeing things."

"Or not seeing them. He is a queer one, though."

"And he's nobody's fool, skipper. He's setting down a mess of calculations that'd make Sir James green with envy."

"Astronomical?"

"No, chemical. Equations. When I left him he was muttering something about the seventy-fifth essential."

"Um—you don't say!" Ridge looked up from the controls and his gaze became thoughtful. "Wonder if he means element."

But he did not explain, for the ship's bell clanged and Harvey came in to relieve him. Kal scuttled off to the regions below to take over from the assistant engineer.

An hour later, Ridge left his own quarters and made his way to the observatory dome. He had found that for which he had searched in his reference library. And now he was more than ever suspicious of Sir James and his scientists. Grave doubts of Nyu Varon were taking form in his mind as well.

### Suspicious and Doubts—A Suggested Solution

OF course, it may have been a false lead, this chance remark Nyu had dropped in Kal's presence. And it may have had nothing whatever to do with the activities of the scientists. Yet it had set the young pilot to thinking deeply and caused him to refresh his memory thus:

Elements number seventy-five in the atomic scale—if Nyu's words could be interpreted as referring to this—was exceedingly precious and much sought after. Rhenium, it was called, and only during the past decade or so had its remarkable therapeutic properties been discovered. Rhenium, also known as divi-manganese, between osmium and tungsten in the periodic table, existed in such minute quantity that only a few milligrams were available to the laboratories of the three inner planets. Its monetary value was enormous, more than a hundred times that of radium. A single gram would represent a huge fortune.

This element, so scarce on the planets as to be almost unobtainable, was reported as present in considerable quantity in the structure of wandering heavenly bodies. More especially, the text book had revealed, in those comets of high orbital velocity and long period.

All of which might mean nothing in the present instance. Or it might mean a great deal. If Sir James had come out here to extract rhenium from the cometary body, this was a treasure hunt. And very explicit



provisions of Interplanetary Law dealt with such enterprises. The Treasure Trove Act made it obligatory to file claim with the Triplanetary Alliance, whether the object of value be natural resource or hidden treasure of man. With the claim properly filed, the finder was entitled to one fourth the amount of findings, operators of his vessel to one fourth, and the Alliance to the remaining one half. In case of attempt to conceal there was confiscation of the finder's share and the loss of his investment in the expedition. Imprisonment, too.

A greedy man or group of men might well try to get away with the entire treasure, especially one so portable as rhenium. And Ridge was inclined to believe that Sir James was that sort.

Nyu was different—the pilot could not conceive of him as wanting vast wealth, unless for the enrichment of his temple or relief of his followers. Somehow the little witch doctor didn't quite fit into the picture. He was too sincere. And yet it was strange that he should be so familiar with the thing as to be computing characteristics and what-not that related to element seventy-five.

Ridge came upon the scientists unexpected. They were intent upon a test of an apparatus which was one of several they had assembled in the dome room. It was a magnetic wave generator of curious design and one capable of radiating an enormous amount of energy. Nothing unusual in this; any legitimate scientific expedition might be expected to come equipped with similar mechanisms. Yet Sir James started violently when he saw the young pilot at his side.

"How are you getting along?" asked Ridge pleasantly.

#### A Confused and Perturbed Scientist

THE scientist's face purpled, but he maintained his composure with obvious effort. "Fine, sir, fine," he blustered, "Our preliminary work has been completed in ample time and we are now preparing for the final tests. We hope them to be of great scientific value."

"Um-yes." The pilot's keen gray eyes traveled from one to the other of the three scientists and appraisingly to the various machines they had set up in the room. He ran his long fingers through the unruly mop of his red hair, a gesture which should have been a warning to Sir James had he known him better. But his tones were disarmingly respectful as he said, "I'm not intruding, am I?"

"Not at all. We are now awaiting a close approach to the comet, and are, for the time, at leisure."

Sir James seemed frank enough in this statement and was now quite at ease. If any preparations had been made for the removal of a treasure from the comet, he was evidently confident that any traces of the fact were well concealed.

But Lin Trovag and Voliras were not so sure of themselves. Both men avoided the pilot's direct gaze. Ridge decided to remain in the observatory dome, until they were trailing the comet at the distance specified

by Sir James. He moved to the forward viewing port, and the Terrestrial scientist followed.

Off to the side was the enormous shimmering orb of the comet, so near now as to blot out most of the heavens in its immensity. They had almost reached its nearer surface and had sheered off to pass it by. Less than a million miles away, the surface appeared as a swirling expanse of silvery vapor. More like a great cosmic cloud than a body which might be thought of as a substantially solid sphere when viewed from a great distance. Through its mistily luminous substance could be seen the nucleus, an eye of light balefully gleaming.

"A strange sight," said Ridge almost without volition. "And still stranger that we should be meeting it out here like this."

Sir James cleared his throat. "You mean because this is a comet of which nothing has been known until very recently?"

"Yes, that and other things. The knowledge of the dryland witch doctor amazes me." Ridge faced the scientist now and saw that his brows had drawn together in an anxious frown.

But Sir James essayed an amused and tolerant chuckle that only succeeded in heightening the impression that he was greatly apprehensive. "Oh he hadn't any real knowledge. It is quite within the realm of possibility that ancient tablets of his tribe recorded the last passage of this body through our solar system. That he stumbled into the *Ariel* by accident; overheard some talk which he barely understood."

"He *has* some real knowledge,"—this was said shortly. "Nyu is now in his cabin working on involved chemical formulae which have to do with the rare metal rhenium. And he *doesn't* understand the Sol-ido language."

Ridge watched the color drain from the scientist's face as he cast this bombshell.

"Rhenium! He—what?" The heavy jowls of Sir James were in agitated motion.

As if to relieve the tension, Don Harvey's voice came blaring from the optophone: "We are well past the body, skipper. Turning in to the side opposite the sun. Decelerating. At what distance shall we follow?"

#### Trailing the Comet

RIDGE turned to the viewing port and saw that Harvey had reported correctly. Directly ahead was a shimmering sea of whiteness—no orb now, but a vast, almost level, plain of turbulent luminescence. Deep in its weird light-shroud glowed the nucleus. And through it, infinitely remote, shone the sun. Redly. They were trailing the comet.

"What distance?" Ridge inquired calmly of Sir James.

"Er—about ten miles."

"Hold to fifty thousand from the surface," the pilot called into the optophone, "I'll remain here to instruct you."

"Ay sir."

The gravity attraction of the comet, though slight on account of its lack of density, was gripping them now. The ship slewed around and the gleaming plain was beneath them. Where before there had been no sensation of either up or down, both were definite impressions now in this weak gravity field.

This was only another world down there, a queer shining mist-world, and they were dropping swiftly toward its surface.

Then a blaze of light rose upward to meet them, a sudden puff of brilliance, which surrounded them and continued beyond, shooting off into space above to a distance of a hundred million miles or more. The tail of the comet was forming—a trail of infinitesimal particles blasted from the head by the sun's repulsive forces. And the *Ariel* was in its midst.

## CHAPTER V

### Nyu Passes

RIDGE had piloted an ethership through the tail of a comet before this, but never that of one so huge. Nor had he been in a ship which deliberately flung into a comet's wake and approached so close to the head. He knew that the tenuous substance of the tail would have no effect on his vessel, nor for that matter would the outer portion of the head itself, were they to enter. The nucleus was quite another matter, although that brighter core of the immense body was at a distance of half a million miles, where it nestled in the center of the gigantic head. But the outer portion of the comet was merely a spray of cold light; that nucleus looked as if it might be intensely hot.

The *Ariel* now settled down to hover above the tossing plains of mist that grew ever brighter as the comet drew nearer to the sun. It was exactly as if they were stationary in the atmosphere of a world of eerie light, but the instruments gave evidence that they were driving in toward the sun at a speed of four hundred miles a second.

Sir James and his associates were working diligently with their apparatuses. Ridge left the televisior plate that showed the view underneath the vessel's hull. Sauntering to the group of special machines, he stood watching Lin Trovag, the Martian. A row of glass retorts in the receiving chamber of his wave generator was displaying the vari-colored radiance that comes with the condensation of elements from electronic charges collected by the magnetic impulses.

"I take it you're analyzing the comet's substance," the pilot offered.

"We are, and more precisely than it has ever been done before, even in the case of smaller and slower-moving bodies." The Martian's reply was in low voice and carefully measured as if he were guarding his words.

Ridge saw that Sir James was watching him covertly. Concern was in his sidelong gaze, and a rising ire.

The pilot continued his conversation with Lin Trovag: "And the small retorts are for the purpose of gathering quantities of the elements existing in the comet's head?"

The Martian hesitated. "Ah—rather you should say from the nucleus. Otherwise, yes. These samples are to be measured with extreme accuracy and will furnish the basis of——"

"Isn't your presence in the control room necessary?" Sir James had stepped over from his own apparatus and interrupted. He stared coldly and fixedly at the pilot.

"No-o," drawled Ridge, "it isn't. My relief pilot is capable; moreover he could reach me by optophone if it became advisable. You see, I'm interested in what you're doing here, Sir James."

### An Impending Dispute with Sir James

"ENTIRELY too much so. I consider it unfounded impertinence on your part to concern yourself with these things which are no affair of yours and which you can not possibly understand."

Ridge smiled frostily. "But I am within my rights, Sir James. And perhaps I do understand—more than you may think."

"What do you mean?" sputtered the scientist, "You understand what?"

The pilot decided that the time had come to voice his suspicions. "Look here," he countered, "Why don't you come clean?"

"Come clean! Why—why——"

"Yes. Own up—confess, and do what is right and lawful. You are extracting a fortune in rhenium from this comet, aren't you?"

Instead of the apprehension Ridge had expected to see, a gleam of cunning came into the eyes of the scientist. He was planning a move to outwit the man who had accused him.

"You think that!" he sneered, "Very well, Mr. Coler, I challenge you to prove it. My apparatus is here; look it over carefully. Lord knows you have been inquisitive enough already."

To one less determined, this might have been convincing. But Ridge was more certain than ever of his ground and was not to be hoodwinked or browbeaten. He knew that a man might hide in his fist a quantity of rhenium equivalent to the wealth of a nation; and he knew his duty as master of the *Ariel*.

"Now that's what I call co-operation," he said easily, "I most certainly will examine your mechanisms. I'd advise you to change your mind, however. An attempt to conceal is a serious matter in the eyes of the law."

Sir James growled in his throat but vouchsafed no reply. Ridge proceeded to a thorough inspection of the several wave generators and a check-up of the contents of their receiving vessels and retorts. He was favored with the black looks of Sir James, uneasy ones from Lin Trovag, and was completely ignored by Voliras. But none of the three attempted to interfere. It was



evident that only the Martian was fearful of the possible results of his search.

And, indeed, everything seemed to be entirely in order. Ridge was no expert in the science of the atom and its particles, but he found little difficulty in tracing each of the separate receptor circuits of the wave generators and locating the corresponding retort in which its extracted element was deposited. In the retort for element seventy-five was only a faint trace of a grayish powder.

### Nyu Varon, the Prophet, Appears on the Scene

FOR more than an hour he was thus engaged. Then, startled by an exclamation of Voliras', he looked up to see that Nyu Varon had come in and was standing before Sir James with a slender forked rod of bluish metal balanced between his finger tips.

"Get out of here!" bellowed the terrestrial scientist, "Scum of the drylands; get out, I say. Isn't it enough that I must put up with a snooping navigator?" He drew back a hamlike fist to strike down the prophet.

"Hold it." Ridge Coler's voice was hardly raised, but it snapped out like a whiplash. Sir James let fall his arm.

"It's an outrage," he protested weakly.

"Let him proceed," the pilot demanded. There was that in the grim set of his jaw which effectually discouraged argument.

Witch doctor or true prophet, madman or priest, something in the calm assurance of the aged drylander commanded respect. His silent comings and goings, his pious manner, and the uncanny knowledge which seemed to be his, all conspired to produce a feeling of the supernatural, which was communicated to those around him.

Ridge Color sensed it now as he had not done before, not only in his own consciousness but from the attitudes of the three scientists. Sir James had lost his apoplectic color and was staring loose-jawed at the frail old man, whose thin lips moved soundlessly as if in supplication to his strange gods. Lin Trovag was a bronze statue, tense and apprehensive. Voliras, pink and smooth of skin as are all the men of Venus, was round-eyed with wonder, looking like nothing so much as a curious infant.

Nyu Varon moved as if in a trance. The forked metal rod he held so delicately balanced was reminiscent of the divining rods sometimes used by superstitious prospectors in days of old. It swung freely between his fingertips, oscillating jerkily as if acted upon by some external force whose source was not apparent.

Ridge tried to tell himself that there was nothing unnatural in this; certainly the atmosphere of the observatory dome was permeated with enough energies to have some such effect on a light rod like that, especially if it was of magnetic metal. There were the usual forces of the *Ariel's* propelling mechanisms, beside those of the wave generators Sir James had set up. Nevertheless, the pilot was fascinated by the movements of the rod and by the prophet's exalted mien.

### A Mysteriously Acting Rod in Nyu's Hands— The Words of the Prophet

NYU moved slowly and steadily toward the apparatus at which the terrestrial scientist had been working. No one spoke or made effort to stop him. The only sounds were the smooth purring of the wave generators and the deeper undertone of the vessel's machinery below.

Suddenly the pilot blinked. The rod had wriggled as if it were a thing alive. And a tuft of blue light appeared at its tip, flickering out almost immediately with an audible crackle.

The prophet spoke then, reverently and gently: "Mysterious and of utter infallibility are the ways of the gods. Through Nyu they speak of the treasure that is hidden in the machine of the wise men. Long ages ago was this deed forecast, and in this day it has come to pass. In the cold heart of this metal—" Nyu touched the massive casting that was the base of the wave generator. "—nay, interspersed with the very particles of its substance is the treasure more precious than gold. The seventy-fifth essential—"

Sir James lunged swiftly, choking off the prophet's words with thick fingers that dug deep into the wrinkled flesh of his throat.

But Ridge was upon the scientist in the next instant, his long arms driving out like piston rods. His first blow caught Sir James under the heart and the second crashed to the side of his head just back of the temple, causing the bulky Terrestrial to lose his grip of Nyu's throat and sway on his feet. The prophet slipped to the floor.

The scientist was no mean antagonist, as Ridge quickly discovered. He recovered his balance immediately and came in with a rush. With surprising speed for one so heavily built and thickly muscled, he let loose a terrific short-arm punch which broke through Ridge's guard and set him back on his heels. And then they were struggling at quarters too close for the use of fists.

Tremendous power was in those thick arms of Sir James. Slowly but surely they forced down the pilot's arms, pinioning them to his sides. Ridge felt his ribs cracking under the pressure.

"Voliras! Trovag—quick!" roared the scientist, "Tie him up. We'll see who's running this expedition."

Ridge saw the Martian pause irresolutely; saw Voliras turn quickly to reach for a coil of wire on the near by work-bench. Nyu was raising himself to one elbow. The pilot let his body go limp in his adversary's grip; gave way under his weight. Taken off guard by this most ancient of tricks, Sir James lost balance for a moment. But that was enough; Ridge was out from those crushing arms in the twinkling of an eye. His long body straightened simultaneously with the lightning left he brought up from near the floor.

The blow landed on the scientist's jaw with a crack like a pistol shot. His head snapped back and his eyes glazed. Sir James slumped to the floor plates. It was Ridge's move this time.

### The Fight Is Won by the Commander

RIDGE faced the other two. But there was no fight in them, now that their leader was out of it. In fact it seemed they had forgotten the brief hostilities entirely. They seemed dazed and were staring incredulously, as Kal Turjen had stared a while before in the control room.

Where the prophet had huddled there was only his metal divining rod, glowing fitfully with eery blue light as its slim end inched along jerkily toward the supposed hiding place of the treasure.

"What became of Nyu?" demanded Ridge.

"He was here; then was gone," Voliras gibbered, "like the snuffing out of a light."

"Nonsense. You were watching the fight and he slipped out."

"Not so," said Lin Trovag solemnly, "He was at our feet, kneeling. A creature of flesh and blood. He dissolved into thin air."

Ridge shivered a little, uncontrollably. "Jupiter!" he exclaimed angrily, "Am I suddenly crazy? Are we all fools in the hands of this drylander?"

Kal Turjen's voice came excitedly then from the optophone: "Nyu's in the airlock, skipper. Better come below and see what you can do."

Ridge was on his way before the last word rang out.

He found Kal at the inner door of the airlock, together with Quin Turas, the Venerian whose duty it was to maintain the oxygen supply of the vessel.

Turas was as white as any drylander of Mars. "May I sleep in the marshes of the frog-men if it be not so," he chattered, "This prophet passed through the steel door without opening it. He is within the lock at this very moment."

Impatient with himself and these others for being tricked so easily by what must be illusions, Ridge flung himself at the bolts of the hermetically sealed door. But he did not reach them.

An invisible, elastic substance intervened. It was as if a wall of sponge rubber had been thrown up at a distance of two or three feet from the airlock door. A wall he could not see but which held him back exactly as if it were a tangible, material barrier. Kal, he saw, wore a sickly grin in which no mirth was apparent.

"Now you see," babbled Quin Turas, "I reported to Turjen as it was and no more——"

A voice interrupted him, the prophet's voice. Coming from behind that invisible barrier and the steel door unmuffled. As if he were standing directly before them. He addressed himself to the pilot:

"Have patience, oh navigator of the heavens. Nyu's work is done and he goes to his gods. Fear you not when the darkness comes and the loss of understanding. It is but a manifestation of those powers, of which I have told you, and further assurance of the final fulfillment of the prophecy. Nyu passes now, committing you to the beneficence of Oni, Dis, and Tur."

There was a clanking of metal upon metal within

the airlock. In that space beyond the sealed door were the paraphernalia of individual adventurers into the utter cold and vacuum of the outer void—space suits with oxygen helmets—weapons and tools—portable rocket tubes for the propulsion of a man in a space suit in case of necessity to leave the vessel. And there was the outer door that opened into space itself.

"Imps of the canals!" gasped Kal, "He's going out."

The hiss of escaping air told them of the opening of the outer door of the lock.

### Watching the Departure of Nyu, the Prophet

THEY were in the extreme lower portion of the vessel here. At their feet was the thick glass of a large circular viewing port. Kal Turjen dropped to his knees at the port rim and the others followed suit just as a bulky dark object dropped away from the hull.

It was the prophet. He had attired himself in a space suit and was a grotesquely inflated figure with transparent globular helmet and oxygen cylinder. Nyu was going to his gods alive. What might happen later was another matter.

For a moment he bumped along the outer surface of the hull awkwardly. Below was the swirling brightness of the comet's head, its nucleus much nearer and more brilliant now, on account of the contraction of the body caused by its approach toward the sun.

Nyu drifted past the port and they had a fleeting glimpse of his chalky face and shining eyes. Then came a burst of vivid flame from the portable rocket tube that was affixed to the oxygen cylinder between his shoulders. A streamer of incandescence, it was, far more brilliant than that of the comet. It was a blinding light trail driving down into the misty luminosity toward that shimmering nucleus.

The prophet had gone to his gods.

## CHAPTER VI

### Vengeance of the Gods?

A TINY ethership was drifting in the wake of the largest comet which had appeared in the solar system for many centuries. A microscopic speck, this vessel was, whose length hardly exceeded a hundred feet, lost in the vastness of a streamer of brilliance that would more than span the distance from earth to its sun. A still more inconsequential mote was in the enormity of the cosmos itself. Yet within the steel-walled compartments of the vessel human beings labored and planned; human emotion and passion was vented or suppressed. And a half-mad witch doctor of the Martian drylands had cast himself out from the Liliputian shell into the awesome depths of the comet's head, a sacrifice to whatever strange creed it was that he had preached.

Considering it all—thinking of the scientists and of Nyu—Ridge Coler was moved to the contemplation of man's insignificance in the immensity of the universe. Of his foibles and vanities, his perpetual seekings for wealth, power, happiness, or the secrets of



creation. His continued reaching out for knowledge and understanding of a Creator, or a creative force, he knew must exist. It was much the same among all races in whatever inhabited world one might visit. The history of humankind repeated itself throughout the ages and in all lands.

But the young master of the *Ariel* was no believer in miracles or in witchcraft. He gave no credence to the excited avowals of Quin Turas that Nyu had passed through the closed inner door of the airlock. That had been a trick; hypnotism most likely, or some form of mental suggestion. Had Nyu been able to do such a thing in actuality, why should he go to the trouble of opening the outer door? He might pass through the vessel's very hull as easily as through that steel inner door of the airlock. And if he were mortal, as he claimed, there should have been no need for him of the protection of a space suit, or for that matter, of the propulsive force of the rocket tube. His gods, had there been such, might have taken him into their midst in a far more spectacular manner and without the aid of modern science.

### The Mystery of Nyu, the Prophet

RIDGE shrugged his shoulders when he rose from the viewing port, as if thus to throw off all thought of the matter. Some of his musings had been voiced to his companions and Kal Turjen commented drily, his black eyes squinting in the upcurling smoke of his cigaret.

"I'll lay a bet we haven't heard the last of the prophet."

"Um—it may be so. He *could* return to the ship if he didn't get too far away. But my hunch is we'll never set eyes on him again."

Kal only grunted, his bronze face inscrutable. There is an awe of dryland magic that can never be quite overcome by even the highest caste Martian. And Turas, the Venerian, was shaking with terror.

"What about the scientists?" Kal asked, after a long silence.

The pilot told him what had happened. "And I'm going up there now," he decided suddenly, "to make myself entirely clear to Sir James."

The Martian grinned. "Seems like you'd done that already—with that left uppercut."

Looking down through the port into the mysterious sea of light, Ridge saw the comet's nucleus brighten spasmodically. Once more his thoughts were of the gentle Oracle of Neren-teu. With an effort he tore himself away and was up the iron stair.

In the observatory dome he found everything as it had been with the exception that Sir James was on his feet, nursing a swollen jaw.

"Ha!" exclaimed the Terrestrial scientist, "Glad you returned, Mr. Coler." His thick voice was conciliatory now. "And I bear you no ill will for what you did. It was no more than I deserved."

Ridge saw that all of the wave generators were in operation, and that Voliras and Lin Trovag had re-

gained their composure. "What of this rhenium?" he asked Sir James bluntly.

The scientist forced a laugh. "Between you and the witch doctor I am fairly caught," he admitted. His tone became wheedling. "And this being the case, I am prepared to make a proposition."

"Proposition!"

"Just that, Mr. Coler. Perhaps you know something of the value of this seventy-fifth element, but you can't possibly know how enormous a fortune is involved in this little—shall I say speculation of ours."

"I can guess. But that doesn't interest me. All I care about is the right and wrong of it, and my responsibility in the matter."

"Even if you were to know that something of the order of half a billion American dollars is involved?"

"No, even if—"

"Hold on a moment, sir." The scientist spoke swiftly now, and vigorously. "Why should half this fortune go to the Tri-planetary Alliance for a lot of grafters to dig into? And a quarter of it to the *Ariel's* owners? They have been paid amply for her chartering. Think of it!—only one-fourth would remain to me and my associates to be divided three ways. And yourself—where would you come in? If your employers were generous you might receive a few thousand units of Interplanetary credit. No more. Now listen to this carefully: I am willing to cut you in on an equal basis with the rest of us—the net proceeds of the rhenium supply will divide four ways, you to receive a full quarter of the profit, if you throw in with us."

### The Offer from Sir James

RIDGE decided to let him continue. "What would you expect me to do?" he asked slowly, as if deeply interested.

"Only to keep silence, and how simple a matter is that. In the pedestal of the second wave generator is a deposit of rhenium which already exceeds in amount that which we had anticipated. The atoms of its substance are inextricably mingled with the atoms of the solid steel casting—inextricable to anyone save myself and my associates. All you are to do is return us to Risapar and forget what you have seen and heard. We will remove the apparatus and no one will be the wiser. And, as quickly as the metal shall have been recovered by my secret process, it will be marketed through channels we have already prepared. Presto!—you are a multi-millionaire."

"And if I refuse to keep silence?" Ridge had mounted one of the tall stools by the work-bench. His long legs were tangled in its rungs. By the vacant look he had summoned to his ordinary open countenance, no one could tell how he was receiving the other's offer.

Sir James spread his pudgy palms. "Nobody in his senses would do that," he objected. Then his voice hardened as he saw a barely perceptible tightening of the pilot's lips. "But if it *did* come to that I should

be compelled to forget my secret process of recovery. The metal would be lost forever to mankind."

Ridge sat silent. He was thinking of the millions of lives that might be saved from the most dread disease of the inner planets with this huge amount of rhenium available. And of the characters of men who would think only of the maximum possible wealth they might acquire in its discovery.

"Well, what's it to be—silence or betrayal?" Sir James' brows drew together and his eyes glittered.

#### How the Offer Was Received by Ridge Coler

THE pilot untangled his legs and stood erect. "Your so-called proposition falls flat, Sir James," he said evenly. "If you don't file your claim legally when we return, I'll do it for you. In your name, of course. But look here—get this—the apparatus will never be taken out of the *Ariel* by you or any of your kind. And the treasure will be recovered. Don't fool yourself on that—there are scientists as clever as yourself and more so. They'll find your secret. And the division of spoils will be in accordance with the accepted law. The penalties will also apply."

"But—but—" the scientist sputtered, apparently threatened anew with apoplexy.

"No 'buts' about it. As long as I'm an accredited pilot and ethership master, there'll be no crooked work on any of—"

A yelp of sheer terror from Voliras cut him short. The Venerian was pointing a shaking forefinger at the very pedestal Nyu's divining rod had singled out as the hiding place of the treasure.

The massive casting was glowing cherry red as if it had been heated in an electric furnace.

Sir James dived to the controls of the mechanism it supported. He pawed frantically at levers and dials in a futile attempt to ward off the calamity that threatened. Perspiration oozed from his pores, and a stream of profanity dripped from his thick lips.

The pedestal glowed to sudden white heat and he staggered back under the intensity of its radiation. Voliras babbled incoherently. Lin Trovag was a rigid statue of bronze.

Wondering, Ridge took note of a tremor which had seized the *Ariel*. The floor plates beneath him vibrated to an energy that was not of any local frequency. His eyes, unaccountably, were drawn to the televisor plate. And what he saw there caused him suddenly to revise some of his notions of natural and supernatural phenomena.

In the ocean of light down there was the comet's nucleus, a vast pulsating orb of incandescence. Blue-white in color, expanding and contracting like a living, breathing thing. From it a column of blue radiance bored upward to contact the *Ariel's* hull and bathe it in an eerie, fluttering luminescence. The vibration of the vessel was in tune with those pulsations!

THE optophone spoke. Ridge turned to its disc; saw a horrified countenance pictured there. It was Don Harvey, in the control room.

"There's no response," shrieked the relief pilot, "We're out of control. Falling. Diving into the comet."

It was true. Glancing again at the televisor plate, Ridge saw that a glow of the outer portion of the comet's head already had swallowed them up. And still the blue ray from its nucleus persisted, and was clinging to the vessel—shimmering—ghastly. He flipped the call lever of the optophone to raise the engine room.

Kal Turjen faced him with solemn mien. There was no panicky fear such as Harvey had shown; Ridge had never known his friend to lose his head. But the Martian's voice was freighted with concern when he replied to the pilot's swift questioning:

"Yes, the force generators are dead. And so is the rocket tube ignition. Only things running are the lighting generators and the oxygen apparatus. Imps of the canals!—I can't find what's wrong."

"I'll be down there at once. Sit tight."

Ridge wheeled to face a blinding glare. The pedestal of the rhenium was a blazing mass, sending off hissing sparklets in a blast like that of a Bessemer converter. Burning, it was, as if it had been of the most combustible of materials. The air was pungent with gasses released. Unfamiliar gasses, producing a taste in the pilot's mouth like that of copper. He was suddenly giddy, unsteady on his feet.

As he reeled toward the companion-way, he saw that Sir James and his two associates had already succumbed. He tried to drag their inert forms away from the flaming apparatus but the heat of it drove him back gasping for breath. Then, abruptly, the dazzling light snuffed out in one last burst of glory. The wave generator, pedestal and all, had disappeared. It was completely consumed.

A hasty examination of the three scientists convinced him that all were alive and seemingly not much injured. This force from out of the comet's nucleus had stricken them down. Probably they would recover quickly. At least there was nothing he could do for them now. And, besides, the *Ariel* was plunging, out of control, in toward that mysterious core which Nyu's faith had peopled with those strange gods of his.

RIDGE stumbled blindly to the control room. Harvey had slumped to the floor grating, where he lay unconscious. And the controls were entirely dead, as he had reported.

In the engine room it was the same, although Kal Turjen was on his feet and apparently none the worse for the experience. The atomic engines simply refused to operate. There was no reason apparent; no parts had been broken or jammed. Everything about them was in order—yet they had stopped and could not be started. It seemed that the blue ray from the core of the comet had paralyzed them at the same time that it had destroyed the results of Sir James' labor.

The *Ariel* lurched violently now as if in some Brob-



dingnagian hand of the cosmos. Ridge and Kal made their way below to the port near the airlock. If worse came to worst, they could go out as Nyu had gone. At least the Marian might. An ethership pilot never deserts his vessel.

### The Manifestation of the Powers

AS they looked down through the viewing port, those last words of the prophet repeated themselves in Ridge's mind—"Fear you not when the darkness comes, and the loss of understanding. It is but a manifestation of those powers of which I have told you—"

The blue-white orb of the nucleus rushed madly toward them, ever larger in their vision. And the pencil of ghastly blue light still held the *Ariel* in its grip. It was drawing them in like a mighty cable sent out for their capture.

Suddenly it was as if the nucleus leaped upward to meet them. It was unbelievably close now. Ridge knew that the head of a comet contracts very rapidly as it nears the sun, that sometimes its diameter when first visible to the inner planets is 100,000 times greater than when it has reached its closest approach to the sun. But this nearness of the nucleus was not due to any such contraction; it was the result of that deadly blue ray. The *Ariel* was going to Nyu's gods.

Kal lay still at the pilot's side. Ridge shook him in sudden panic, but there was no response. His friend had succumbed to those awful forces which were tearing at his own vitals with numbing intensity.

Still Ridge fought off unconsciousness. With hands and face flattened to the thick glass of the port, he stared into the blue-white inferno of weaving, fantastic wraith-forms. The vessel had plunged into the nucleus. It drifted uncertainly now toward a central mass of bright objects that nodded like huge distorted heads of human beings. The blue ray was no longer in evidence.

In a growing daze, the pilot stared. Perhaps it was a vagary of his tortured mind—with these energies permeating his being—but certainly it seemed that those were enormous heads down there, a trio of them. Nodding solemnly—radiant, not only with light but with good will. Nyu's gods—such they must be. . . .

Darkness swept down then on Ridge Coler, "and the loss of understanding."

## CHAPTER VII

### The Comet Returns

MEANWHILE, astronomers of the inner planets had sighted the comet. For days they observed its progress, calculating its dimensions and mass, making spectrographs to determine the nature of its gaseous envelopes, plotting its orbit, and issuing bulletins to the newscasters, hailing it as the greatest and most spectacular of heavenly visitants recorded in history. They were delving into the folk-lore

of obscure races to check their computations of its period. They were learning of at least three previous appearances when the phenomenon had been viewed as a strange and terrifying atmospheric exhalation. They had to excuse their failure to predict its coming by explaining that the ancients were not equipped to determine the characteristics of its orbit, since they had no real knowledge of the law of gravitation or of the higher mathematics involved.

### Rumor Rife in the Martian Drylands

BUT rumor was rife in the drylands of Mars. Certain nomadic tribes there were who spoke in hushed whispers of a desert oracle who claimed to be the son of this very comet, and who had predicted its appearance with accuracy—of the legendary gods of the comet, and of three men of great learning who had visited the prophet's temple in the dead of the night and had stolen his secrets. Old wives' tales, these were, and not to be credited by the more enlightened.

When the body became visible to the naked eye, it was, at first, something of a disappointment to the masses of observers. The thing had been over-advertised by the scientists, it seemed. They had been led to believe that its brilliance would rival that of the sun, which it didn't. And nothing of its reputed speed of four hundred miles a second was apparent to the eye. It moved in a most leisurely manner through the skies. And, for that matter, the fastest etherships were far speedier. True, its tail was a magnificent spectacle by night, especially when, in its intermittent blasts, it trailed off to its full length of nearly a hundred and fifty million miles. And each night it was larger and more brilliant. Nevertheless, the interest of the public was waning as the days passed.

THEN all that was changed. The astronomers had calculated that the body was due for a head-on collision with the planet Mars. There could be no mistake in the matter; the orbits of the two bodies were definitely fixed and precisely determined. The meeting in space was inevitable. In vain did the scientists give assurance that no serious result was anticipated; that the mass of the comet was so small that it could not possibly wreak any great destruction. Even the nucleus, they declared, was composed of nothing more than a number of meteoric bodies which would be consumed by their own heat of friction, when they entered the atmosphere of the red planet. But terror and demoralizing panic seized the peoples of Mars; they refused to believe. From a casually accepted natural spectacle, the comet had come to be a menace. The populace clamored for action on the part of the scientists, for a means of defense against this projective from out the skies. When none was forthcoming, they stormed the universities and laboratories and observatories and would have put to death the savants, had the wise men not been fortunate enough to escape.

A calm followed the storm. The traditional stoicism of the races of Mars returned. Millions of them

waited patiently for the end of their world, convinced that it was to be.

### Collision of the Nucleus of the Comet with Mars

THE collision came as had been forecast. For twenty seconds the green skies of Mars were ablaze with light. Then they resumed their accustomed hue and the comet was seen to leave as two separate and smaller bodies, one with a multiple tail of diminished brilliance, the other tailless and hardly more than a ball of misty light as it caromed off into space. There was nothing more. By a rapid optophone check of the many canal cities, the Martians quickly discovered that no fatalities had resulted. There was no damage whatever, so far as could be learned. There could have been none unless in some remote and sparsely populated province of the drylands, whence news was slow to trickle. The scientists had been vindicated.

As seen from earth and Venus the spectacle was impressive and awe-inspiring beyond description—a display of celestial fireworks such as man had never witnessed. It showed a ball of white flame many times the size of the red planet, trailing its streamer of light in an enormous arc across the heavens, driving relentlessly toward the tiny red orb of Mars until at last it swallowed it up in a blaze of swelling magnificence. Exploding apparently, casting off huge blobs of living flame. Dividing then and passing on as two bodies, it left the red planet serenely a-gleam in precisely its former position. Multitudes gave voice to their relief, and, when etherphone advices brought assurance that all was well in the outermost of the three worlds, the populace indulged in the wildest of celebrations.

Excitement and jubilation rose to fever pitch and then subsided. Presently the thing would be forgotten.

BUT, in the forbidden province of the Martian drylands, an entirely different spirit prevailed. Thousands of the faithful had assembled at the mountain shrine of Neren-teu. And to these the coming of the comet was but a manifestation of the power of their gods, Oni, Dis, and Tur. Patiently they had awaited its appearance, bereft of their well beloved oracle, Nyu Varon, but confident that his successor was to step out of the weaving brilliance of the visiting body as the prophet had promised.

The flat top of the lone dryland peak had been assuming the appearance of a huge desert encampment for many days. Its area was crowded with large and small tents and portable aluminoid shelters. Those of the faithful, some of them ragged and humble, others fierce and proud warriors of the mystic roaming tribes, dwelt together in peaceful accord and in prayerful meditation, awaiting the comet's coming and exhibiting the greatest joy when it made its appearance in the green skies. They flocked to the shrine of many pillars to be there to greet the new prophet. The lesser priests made continuous and solemn incantation at the altar.

### Arrival of the Ethership, the *Ariel*

WHEN the dazzling light swept down there was none outside to see. All were in the temple, prostrate, and with eyes turned toward the altar. And so it was that, all unknown to the worshippers, a slender tapered cylinder of gleaming metal drifted slowly down from the bright mists. It hovered a moment at the edge of the small plateau, then settled gently to rest just outside the circle of tents.

It was the ethership *Ariel*.

Ridge Coler, who had long lain inert in the bottom compartment, came abruptly to consciousness of his surroundings. He sat up weakly and gazed at the prostrate form of his Martian friend. And then he remembered. But now the view through the circular glass of the port was quite different. He saw that the *Ariel* had come to rest on the very rim of a precipice that looked down over a particularly barren waste of bleached sand. Undoubtedly they were in the Martian dryland, but how they had arrived was a mystery.

"Kal, wake up!" He shook his friend and marveled at his own weakness, then realized suddenly that he was ravenously hungry and was parched with thirst. Many hours must have passed while they lay there in the stupor induced by the comet's energies.

He succeeded in rousing his friend. Together, they took stock of themselves and of the situation. Undoubtedly the ethership had been landed somehow, by someone. A gentle throbbing told of the continued functioning of the oxygen apparatus. And the lights still glowed to their full brilliance. Miraculously or otherwise, they had escaped the mysterious energies of the comet.

They spoke in hushed whispers. Each was aware of a feeling of awe. Of the supernatural, perhaps. Yet neither would admit his weird sensations to the other. It was as if they had dreamed and were neither of them just certain as to the meaning of the phantoms of their imagination.

Quin Turas joined them. He was barely able to stand and mouthed stark gibberish when questioned.

### The Recovery of the *Ariel's* Crew

RIDGE raced to the control room; Kal to the engine room. Don Harvey was safe; so was the second engineer, Borj, the dietician, as well. And bellowings from the optophone gave noisy evidence that Sir James and his friends had likewise recovered their senses. Ridge lost no time in getting to the airlock and through it to the outside.

He regarded with amazement the scene that met his view. In the western sky was the comet, not nearly so brilliant as he would have expected. It was receding, with fitful pulsings of a multiple tail on the side opposite the sun. A few degrees removed from it was a dimmer and smaller body, moving in the same general direction. But what was most surprising was the grove atop the mesa with the ancient temple in its midst, and the encampment of temporary shelters in the foreground. No human being was in sight, but the chant-



ing of many voices was to be heard in the great temple.

It flashed across the pilot's mind, which was still in a semi-dazed state, that this was the shrine of Nyu's gods.

Kal Turjen was beside him then, and the others of the *Ariel's* crew. By common consent, they spoke no word. A puzzled group they were, and strangely respectful, staring at the temple. The booming monotony of dryland chanting was in their ears.

Then came Sir James and his two scientists. Chastened and silent. A change had come over the terrestrial savant. His mien was one of humility and resignation. It seemed that much of the avaricious and inhuman fixity had been erased from his countenance.

"I must apologize," he said to Ridge, "and confess, as well. In the grove yonder is the temple from which we removed the record of the comet and its concealed treasure. Purloined, rather I should say. I can not now explain what it was that came over me when this was done; I was drawn to this spot and was moved inexplicably to the deed. What followed was something equally unexplainable to me. It was a madness, I fear, that siezed me. Something I could not resist. I *had* to do as I did, but now the spell is broken and I am thankful that things turned out as they did."

Ridge nodded understanding. "Might it not be," he suggested, "that all this was only fate, or destiny, or whatever it might be called. Fulfillment of the old drylander's prophecy?"

BUT Sir James was all scientist now. "No, no," he objected. "It can be explained on purely scientific grounds, I am sure. This supposed phophecy is a garbled record of an ancient who had a marvelous mind for his time. The comet appeared here more than ten centuries ago, and this forgotten mathematician merely calculated its period in some such manner as we do today. The religious phase of it was built up from this by the superstitious natives who followed his time."

Ridge was not so sure. "How about the vessel?" he demanded, "How was it landed safely, and by whom?"

The scientist frowned, but had a ready answer: "All quite simple, as I see it. There are electrical energies in the comet of which we have no definite knowledge. But we might well suppose that these could play the

pranks we observed, consuming the wave generator and paralyzing the propulsion machinery of the *Ariel*, robbing us of our senses. Before he lost consciousness, your relief pilot quite likely set the controls for automatic piloting. When we were released from the comet's energies, the vessel landed itself. That is all.

But it was not all. Ridge knew the controls had *not* been set.

### The Procession

A PROCESSION was winding its way out of the grove before the temple, and was coming their way. The chanting of the worshippers in the hidden recesses of the shrine rose to exalted heights as the line of robed priests advanced toward the little group by the *Ariel*.

Leading the priests was a resplendently arrayed figure. A tall, straight youth with the chalky skin of a desert dweller, but whose every feature gave evidence of a princely dignity. He bore a most startling resemblance to the ancient prophet, Nyu Varon.

On a small salver which he carried before him reposed a perfect sphere of shining metal. With it, he advanced to a point directly before Ridge. He addressed the pilot in solemn tones:

"Greetings, oh navigator of the heavens. The beneficence of Oni, Dis, and Tur, from whom I come, be with you always. Take this, the treasure of the prophecy; in your care it is committed. It is the gift of the gods to suffering humanity, and this has come to pass as it was foretold in distant ages by the first true son of the comet, Nyu, my predecessor. Take it, I say, that it may be apportioned to the three worlds equitably and in accordance with the laws of man. The wise men are pardoned; their deed is justified by the end. And it could not have occurred otherwise, for so it was decreed. Go now, my friends, with the gods, in safety and in peace."

A blur was in Ridge Coler's vision as the priests filed off through the city of tents and were lost to view. He found himself with the metallic sphere in his hands. It was the rhenium.

"This," he said thoughtfully, turning to Sir James, "is something your science can never explain."

Sir James was silent.

THE END



# Beyond the End of Space

By John W. Campbell, Jr.

*THIS instalment opens with completion of the great airship "Prometheus" and the excitement of the narration grows as the contest between the good and evil powers of the story progresses and the great scientist Warren is missing from the scene, after the explosion.*

Illustrated by MOREY

## What Went Before:

The heroes of this story, Warren and his associates, world scientists, are introduced to us in their great laboratory. A feature of the apparatus is a ribbon of white silk which, rotating, collects and transfers an electric charge somewhat as the steel ribbon on the Pulsen Telephone acts in the telephone of the Swedish Edison. The selfish capitalist, Nestor by name, with his associates, strives to get possession of the wonderful inventions of Randolph Warren. He has among his associates a great scientist Atkill, but one who confesses his inferiority to Warren. Conspirators from the underworld of racketeers are sent to invade the laboratory, but it is so marvelously protected by electric devices that the attempt proves futile and the invaders by application of the Tesla discharge, which is quite harmless, are frightened almost out of their senses and when released believe they were in danger of being electrocuted. Then comes the futile activities of Atkill, after Nestor, knowing him to be a scientist only inferior to Warren, has enlisted him in his service. The object of the plot is to steal the patents and have the world at their feet, and Nestor and his associates are willing to do anything to bring about this result. There is a great explosion and Warren disappears from the scene. The strange picture of the ignorant members of the underworld working in collaboration with the great scientist Atkill is very well portrayed. But Atkill cannot get at these patents and we leave off with Nestor and his associates thinking that they are on the edge of a successful campaign. In the present issue we are told of its results.

## PART II

THE grey concrete walls of the laboratory seemed bursting with the great lustrous thing that lay on the floor of the long, bare room. It was a shining, iridescent dirigible of metal, with long streaks of windows set in its side; curious projectors and little ports, that seemed to open outward, studded the bow and stern.

But it was a beautiful thing, what one could see of it. The half-score of men who stood below and looked up at it now seemed mightily pleased with the great machine, over two hundred feet of shining, taper-

ing metal. Across the bow, above the narrow streak of window, gleaming, golden letters a foot high stood out on the background of polished beryllium. "PROMETHEUS."

"She works, Ran, she's magnificent." Putney's voice was low, and tense with excitement. "Around the Moon! In an hour we did what it took Sanderson six months to do! And old McCarthy finished those castings, and assembled her in three months!"

"It ain't a 'she,' it's a 'he'," grinned Warren. "Can't you read?"

"All right, heathen. The patents came through today," Putney added irrelevantly.

"There'll be more after we've finished experimenting. I think we'd better wait till we have everything, before we try to sell anything, don't you?"

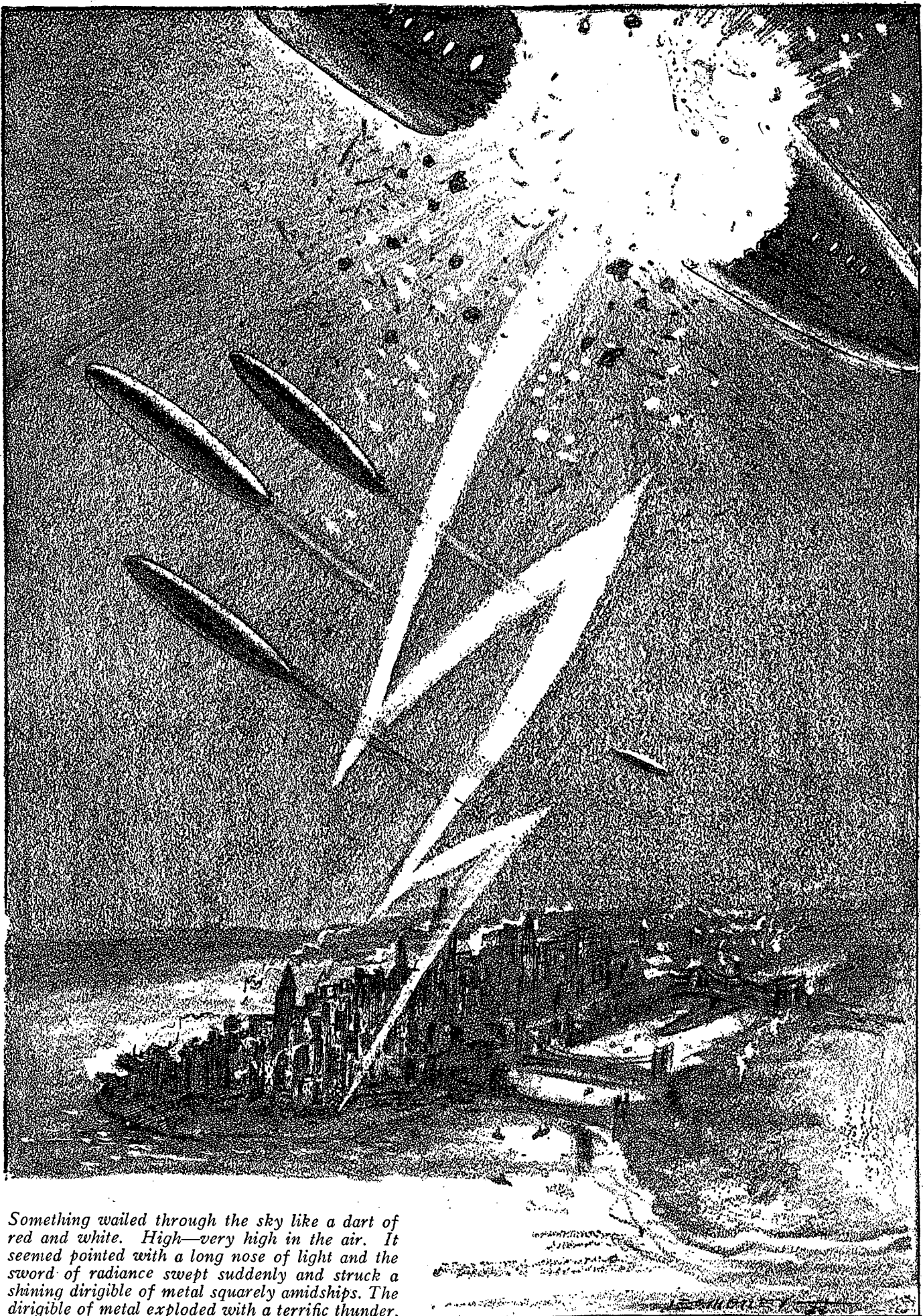
"I agree, Ran. Well, we ought to find plenty."

"In the meantime—let's turn in. We can start tomorrow. The ship's stocked, ready, and waiting. One of you men want to volunteer for——"

## A Raid Foiled

THE men started, and looked quickly toward a switchboard, half dismantled at one side of the room. A loud, humming note came from it, and a light blinked rapidly, more and more rapidly—and then there was a sudden terrific explosion. A huge crack appeared across one side of the room, the wall reeled, staggered, and collapsed with a terrific crash. Simultaneously the lights went out, and only a ghostly light came from a small flame, a clear white flame burning steadily on the top of a small block of iron, the size of a match box.





*Something wailed through the sky like a dart of red and white. High—very high in the air. It seemed pointed with a long nose of light and the sword of radiance swept suddenly and struck a shining dirigible of metal squarely amidships. The dirigible of metal exploded with a terrific thunder.*



"Air raid—they're trying to kill us!" gasped Warren.

"Damn—into the ship!" roared Putney. The men leaped in at his heels. Putney whirled, and raced down a long corridor toward the nose, up a flight of metal steps, two at a time, and flung himself into the control room. Flying fingers clicked over half a dozen tumblers, low thuds of closing plunger switches came from behind, and then a shimmering in the air about the ship, just as the second bomb flashed down. The great mass of concrete that was the west wall seemed tired. It began to lie down. Something seemed to stop it half a dozen feet from the wall of the ship, and it slid down on some invisible surface. A perfect rain of bombs pulverised it and every part of the building, before it completed its fall.

Something began to glow through the dust of the fallen building. It glowed white and clear, and seemed brightening rapidly. The dust had gone now, and a clear light shone over the scarred grounds, and the great ship shone like a heliograph. The light grew, and grew, the ground began to melt, the rocks commenced to glow bright as the awful flame increased in volume. A terrific roar of air grew louder and louder. Trees bent over, bent toward that spot where a draft of white-hot air was rushing up, the wind grew, and the trees toppled, rolled—and burst into terrific flaming gas.

"The little flare—the everlasting flame—it's broken free, and going faster!" somebody cried from the rear of the ship.

"Putt—quick—we haven't tried it before, but we'll have to. X-785! Settings, take them: X-54-235, Y-87-452, X-32-81 and T-68 plus 436." Warren's voice rang out sharply, as he read from the notebook he had snapped out as he saw the flare growing. It was growing beyond bounds now—

#### Setting the Control Dials

PUTNEY'S flying fingers set the dials, then turned the little tumbler switch that threw the colossal power of the main burner into the field, a glowing ball of light ten feet in diameter, feeding on an eleven ton ingot of iron.

There was a sigh, a soft, gentle sigh from all about them, and something wrenched at them, tore them apart, and hurled the separate individual atoms each in a different direction with an awful speed. The awful blaze of light was gone. The lights of the ship were gone—they were gone themselves, in an utter blankness.

\* \* \* \* \*

SIX giant airplanes had come rumbling across the sky, their eighteen powerful gasoline turbines whispering softly to themselves, the fuel pumps chuckling gently, maliciously. Two pilots, one navigator, one bomber rode each plane, and with them went a huge cargo of high explosives, dressed in neat steel jackets. In all, there were thirty tons of highly explosive nitrogen compounds aboard the six planes.

They slipped through the air with scarcely a sound,

specially silenced propellers, specially designed wings that merely rustled through the air even at two hundred and fifty miles an hour, and already nearly noiseless turbines. There was no sound, and practically no light. Only a faint glow from each plane, that was projected slightly upward. They could be seen only from above, and the leading plane was lowest. They were far from the lighted air routes here, and far from towns or houses, other than the dimly seen laboratory seven thousand feet below.

"Ready, Bert. Drop your first three," said the navigator of the leading plane. Three darkly shining ovals slid down through the starlight. They disappeared, then suddenly there was a tremendous flash of flame, and a roaring explosion a few seconds later. It was immediately followed by the detonation of the three bombs of the next ship, then the next, and the next. The buildings had opened out, and a great patch of light showed on the rocky hills. The second explosion darkened this suddenly, but in that instant, a gleam of metal had stood out in the lighted building, a great sheet of polished metal.

#### Bombings from the Air

IT was gone when the lights blinked out. Six heavy detonations, eighteen separate bombs, followed. Then silence as the planes turned for a second try.

Something began to glow down there. A fire had started perhaps? It grew swiftly brighter, a white, unwinking light that could not be a fire, it was too steady, too white and changeless, save for a rapid increase in brightness. The heaped ruins of the laboratory were already beginning to glow slightly, then brighter and brighter. They slumped, and a globe of white fire lit the landscape, and threw a brilliant stabbing light to the heavens that made the planes stand out brilliantly.

"Damn—searchlights—turn and drop everything you've got," ordered the leading pilot. Five other pilots heard his orders over their radio. The planes swooped, and turned. Twenty-four tons of explosives rained down toward the white light. They went off in the air as they approached, the terrific heat set the bombs glowing when they were fifty feet away, and exploded them instantly.

Suddenly the white died down, it flared brilliantly, blindingly violet-blue—the pilots screamed in agony, the entire planes turned red, and shooting flames sprang from the gas tanks. The turbines shrieked suddenly as though in agony, and burst with popping explosions.

Six flaming, white-hot planes dropped earth-ward. They dropped toward a pit of white-hot rock half a mile across that heaved and boiled, and spewed forth great volumes of gas.

There was nothing else there. The ball of violet flame was gone, the laboratory was gone—and the six bombing planes were vanishing in blobs of white-hot gas.

The Putney and Warren Research Laboratories had vanished.

Next dawn a crowd of men were watching the still-



glowing rock, and flights of airplanes wheeled slowly overhead. Newsplanes were taking pictures, telenews planes were projecting the view on ten thousand screens in New York and New Jersey. Beyond local interest, an explanation of the slight earth-tremor that had shaken the district, it had no meaning.

And a certain upstate bank cashier, one James Os-  
well Jessop, was visited by a lawyer from the firm of  
Powers and Mulroony, who informed him he was sole  
heir of Randolph Warren, who had unfortunately died  
in an accident in his laboratory the preceeding evening.  
Mr. Warren was a scientist. Had he heard of him?  
Mr. Jessop had not. Had Dr. Warren left anything?  
Yes, a little something. A few patents. Would he like  
to sell them? Gladly—how much could he get?

### A Sale of Patents at a Trivial Price

THREE weeks later he received the enormous sum  
of thirty thousand dollars for the patents that could  
have remade the world, blasted a thousand industries,  
and brought every nation of the earth trembling to  
submission before their owner!

### CHAPTER XI

RANDOLPH WARREN raised a shaking hand  
to his head, and brushed back the hair that had  
fallen over his eyes. His mind was muddled, un-  
certain. There was a feeling of weirdness, of inex-  
plicable things about him as he lay on the floor, even  
before he opened his eyes. The thick, soft carpeting  
of semi-sponge rubber was comfortable under him,  
and languorously he opened his eyes. He stared, raised  
a hand before his eyes, and stared harder.

His hand was a brilliant, flaming violet. His hair was  
a pale, virulent shade of green. He was wearing dark  
red shoes, dark orange trousers with twisting threads  
of a bright turkey red. His belt was pale violet. The  
gold buckle was slightly greenish in cast, but otherwise  
unchanged.

Lying on the floor nearby, and slightly stirring now  
was Putney. His lips were a dark violet, his hands the  
same bright violet that showed on Warren's own. His  
hair, normally brown, was now colored green, several  
shades darker, and much more pleasant in appearance  
than Warren's.

### What Had Happened to the Control Room?

THE physicist gasped, and sat up. The control  
room of his ship of course. But what had hap-  
pened to it? It looked familiar, yet unfamiliar. The  
angles and proportions were wholly, utterly wrong.

And it was dark. The lights were giving a pale  
orange glow, but the window opened on a jet empti-  
ness. Warren knew it was in open space, he could  
recognize that quality of empty blackness, but there  
was something very wrong with the sky, too. The very  
stars in their courses seemed vastly changed. He could  
not recognize a single familiar star, a single known  
constellation.

He heard a gasp of astonishment. Putney was star-

ing at his hand with wide eyes. His eyes were bright,  
light blue, where they should be white, and very dark  
green where they had been black.

"You awake?" said Warren. "I felt the same way  
when I first saw my hand. Look at those beautiful  
red shoes you have on. How do you like my orange-  
and-red trousers?" His voice though, did not convey  
any sound of jocularity, but a feeling of helplessness.

"Where under the sun are we—what's happened?"  
gasped Putney.

"To the first I'd say, I doubt that we are, and to  
the second, I could guess, but I won't." The helpless  
tone of stupified surprise was rapidly leaving War-  
ren's voice, with a note of excitement following close  
on its heels.

Shouts and cries of amazement were coming from  
the rear of the ship.

"All men up here!" sang out Warren. Presently  
men began to file into the room. In a short time ten  
of the weirdest sights that ever met the human eye  
stood grouped before the two scientists. They were  
gaping at each other in speechless amazement.  
McLaurin, the burly Scots mechanic, was the prize  
specimen, however. He had on pale pink trousers, a  
light orange coat, blue shoes with red soles, and was  
now equipped with violet hair. A short time before  
it had been very red.

Warren burst out laughing at the sight of the dour  
Scot clad in this brilliant array of pastel tints. "Lord,  
Mac, was ever such a sight before?"

"An' o' course ye'r a beauty yerself." replied the  
Scotsman. "An' what may it mean?"

"Carl—you're somewhat of an astronomer, take a  
look out of the observation window. What stars do  
you recognize?"

"None—not a one!" gasped the young astro-physi-  
cist, after a keen survey of the star-field.

"I'm afraid to turn the ship around right now, don't  
know what will happen, if my theory is right, anything  
might. Now where would you say the sun lay from  
here?"

### No Sun to Be Seen at Any Angle

CARL looked briefly out of the window which ran  
around three sides of the control room, and finally  
pointed straight astern. "Must be behind, we'd see  
it if it were anywhere else."

"Mac, run back and look."

The mechanist was gone scarcely thirty seconds be-  
fore he came back, his face paled to a slightly lighter  
shade of violet.

"I can see through three other angles, Doctor War-  
ren, but there is na sun!" he reported.

The men stared at him in horror. "No sun? My  
God, where are we?" demanded one.

"I can't say, but I can guess," replied Warren quick-  
ly. "This thing will get on your nerves if you let it,  
but take it easy. We are in a space ship, the most  
powerful men ever knew. We are somewhere, where,  
obviously, this space ship, *plus* that little ball of fire,

brought us. Therefore it's a reasonable conclusion that this same space ship, *plus* an exactly similar ball of fire, which we can create, will take us back. Is it not?"

If Warren's theories were correct, it was not necessarily true, but the men nodded, hopefully.

"My theory is that we have gone where that matter went! Into another space! Not quite where that matter went, for remember we went through that, merely out of our own space, where there was no matter, and where no matter could exist. We exist, therefore we are in a space where matter can exist, but the conditions are different here, hence our violet faces, the weird coloring of our clothes and hair, and the feeling of unfamiliarity with this very ship we built. But the conditions are not so different that we cannot understand them, and live till we can control them.

### Locating Themselves in the New Space

"THE first thing to do is to locate ourselves in this new space. We must take photographs. First, however, we must see that conditions permit our plates to work. This ship is completely stocked, luckily, so we have plenty of time to work. We must be in some part of this new space which corresponds with the solar system in ours.

"To get our position, remember that our own space is a curved hyper-sphere, a fourth dimensional sphere, roughly speaking, whose shape is maintained by the pull of the multitude of bodies, stars and worlds, which fill it. Now here are other stars—and probably other worlds. This, then, would be a space similar to ours, as one world is similar to another. Matter cannot exist *between* the two, but can exist in either, just as a man could not exist *between* Earth and Venus for instance, but, supposedly, could exist on either, but under different conditions of gravity, light, heat, atmosphere—everything.

"So it is here.

"But one thing is not changed men, one of the most important things. I've still got an appetite, so let's eat!"

With a laugh of relief, they agreed with him on that, and started below. Two of the men set to work in the galley, preparing the meal, while Warren and Putney stayed in the control room, observing the meters.

### A Puzzled Group of Space Travelers

"WE'VE got gravity, we've got power, and light and heat, and evidently our force-screen is working, for there's atmospheric pressure outside, earth-atmosphere brought with us. But what in—the Universe did this?" demanded Putney.

"Conflicting force-fields, Putt, the conflicting fields of that little release-flame running wild, and our own field X-785. It threw us for a loss, Putt, but I think it killed that release flame.

"Now we've got to work fast, and locate ourselves. First and foremost, we'll have to use the telescope and take star-charts, so that we can come back to this point

if we move, and by all the gods we *will*! I couldn't have done this in a billion years, and no man will ever do it again, in all probability, so let's make hay while the sun shines. Either we can return, or we can't. If we can, we don't have to worry, and if we can't, we might as well enjoy life while we live!"

"I guess you're right, Ran, but what will we have to do to learn about our position?"

"Determine the Constants of Space here. There are certain constants that are, I suspect, universal. The constant of gravity, the proportionality factor you know, will probably be the same, but we can determine that. But such fundamental constants as the velocity of light, radius of space curvature, the space equation of time and the resistance or rigidity of space constants, we will have to know. Evidently our release-flame burns steadily, though Mac said it was orange here—I'm not surprised—so we will have time to work. But most important for us, is the rate of progress of time as relative to our own space-time sphere."

"A second here may be a million years of earth-time you mean?"

"Exactly—and if it is, we are forever isolated. By this time, or by the time we return, the sun and its attendant planets will have swung around the galaxy and been lost from us forever in a maze of five hundred thousand million suns, and the galaxy itself may have swung into some other part of our super-galaxy, the Magellanic cloud for instance—"

"Yes, and a much simpler way of being gloomy is to merely say we might all commit suicide. Let's go below," said Putney."

## CHAPTER XII

PUTNEY sat down gently in the comfortable chair in the "library" aboard the ship. It was also the conference room, study and den for the two friends. A phonograph was going in the after part of the ship now, and a good meal had put all in a better frame of mind. Warren sat down, after closing the door behind him. The glow of the tube-lights was steady and clear, the air in the ship warm and refreshing, and through the earth was a countless inexpressible distance away in time and space, the warm air, the food, the music—all seemed to bring it near. Here in the heart of the ship, under the influence of the gravity fields, it seemed impossible that they were anywhere than in their room on earth.

Putney chuckled softly as he tamped down the tobacco in his pipe. "Seems scarcely possible, sitting here."

### How and When Is the Return to Be

"DOESN'T, does (puff-puff) it?" replied Warren, struggling to light his own pipe. "The question is, how are we going to get back, for we know it's not only possible, but a fact."

"Another question too, comes to my mind," said Putney softly. "When are going to get back?"

Warren looked at him sharply, Putney continued to



look steadily at the ceiling. "Are we going to get back a few days after we left," he went on, "or are we going to come back a million million years ago or a million million years in our future?"

"As I before said, I don't know."

"Do you think the time-rates will be the same?"

"I know they aren't. The differences we see show the two spaces aren't the same. We can determine the time rate of this space in reference to itself—and I suspect it will be slightly different. What I mean is—we have brought yard sticks from our own space, but they have been distorted by this space. How much, we naturally can't tell. If we find by them that the speed of light is say 300,000 miles per second, by our also-carried-over clocks, then we know the time-rate here. But we can't determine the relative time-rates of the two spaces.

"Why?"

"Would we be able to go back without knowing that?"

"I think we can, Putt. The power works here, evidently, and that time-rate change will affect all things, equally, here."

"Suppose that one minute here represented an hour on earth, and we spend a week investigating space-constants, then spend a year or so exploring. What happens?"

"Well—we'd get back to earth a good many years after we started—sixty years late, wouldn't we, Putt?" Warren was thoughtful.

"So is it wise to spend any longer here than we have to? Seventeen years and our patents would be gone. By the way, what happens to them? They're made out in your name you know, and you are dead, and they can prove that you died in the terrible explosion of your laboratory. Some experiment we were working on went all wrong, and the laboratory was wrecked in a series of explosions. Probably fused into the bargain." Putney added.

"So that's what they'll say." Warren paused thoughtfully. "And somebody will inherit my patents, and then Nestor will buy them up, because the poor fool won't know what it's all about. I believe it's some distant cousin of mine who always made me want to take a picture of him. He's such a perfect model for the hen-pecked husband. Works in a little country bank.

"And the ten or twenty thousand dollars, that Nestor will offer, will be a tremendous fortune from the Gods, and he'll thank them on bended knees that they permitted you to live long enough to die and leave him something worth so much—when he could sell them for a hundred billion dollars. The nations of earth would form a syndicate to buy those plans." Putney grinned sourly. "We were fools not to expect that."

"And Nestor and Atkill walk off with the gravy, don't they?"

"No," replied Putney, "they don't. I've been doing a little investigating, when Nestor started lying so very low, and being so very nice. Atkill got fired

when he didn't beat you, and because he hadn't discovered it. Nestor had a win-or-loose contract with him, before Atkill took it, ten million if he won, and 100,000 win or loose. He lost—and got the hundred thousand. Only Nestor, the dear old fox, had a cute little apparatus clause. In case of loss, Atkill paid for the apparatus. It cost seventy-five thousand. Atkill was sore, and the two weren't on speaking terms—but American Super-power, the new Power Combine, and Nestor were surprisingly close. I was a bit surprised. Nestor told them the whole story, and said, quite truly, you could wreck them. They combined—and apparently bought a few bombing planes for good measure."

Warren's square-cut jaw was hardening. "You know," he said in a coldly precise voice, "I think we'll hurry right home—if we can.

"Let's turn in."

### Protracted Determinations and Calculations

They started work the next day, setting up their apparatus for the determination of the all important space characteristics. They knew the exact procedure, and had trained men, and trained mechanics, but the problem was not one of complex apparatus, but of many observations. They were enormously helped by the great power at their command, by the space fields they themselves could build, and by the mobility of their ship. But there was no star near them, and the nearest was more than two light-years away. It was impossible to visit it, and get the assistance so much needed, that only the enormous mass could render, but they did their best from a distance.

It was nearly two weeks later, by their chronometers, when the determinations alone had been made.

"And," said Warren, "that's only the preliminary. I've still got to find out how to use them. We've got to do some calculating. You know I took down the readings of all the instruments, don't you? As soon as I found what had happened, and where we were, I mean. And I had notes on that little laboratory release-flame, so I know the thing that threw us this way, and the character of that space, and I know the character of this space, so all I have to do is calculate what will do it the other way."

"Uh-huh. That's all," grinned Putney.

### CHAPTER XIII

IN a city separated from the *Prometheus* by an interval that was inconceivable, and inexpressible in terms of Space and Time, was a shabby, dowdy building, in a shabby, dirty section of the city. Parts of the city were bright with streams of lighted cars and long rows of gleaming lights with moving walks and tri-level roads. Elevated trains hummed and roared across the city, and the soft light of stars and of a silvery moon were lost in the harsher, multi-colored glare of a giant city's lights.

There was a constant, husky whisper of city noise that seeped even so far into the dingy, dark section of the town, and into this room. A single, old-fashioned

gas-glow tube lighted it. The woman who ran the boarding house was as frowsy as her house, and she had a poor sense of economy. There were actually some incandescent bulbs left, because they were cheaper—and 98% inefficient. The gas-glow tube in the room was nearly as bad, and the room was dim.

A scarred, tippy table stood in the middle of the room. A bottle and three glasses stood on the table, and beside them a large ash tray, half full. There were countless overlapping rings where "alcoholic" drinks intended for human consumption had made slight stains on the once-fine oak.

### A Job for Someone

"Joe," said the black-haired man, leaning back in his chair, smoking an expensive briar, "I've got a job. This isn't merely a friendly call."

"Atty," replied Joe Keller, "I ain't sa dumb I don' know wen yuh'r here on business. Wat is it? Hope it's bettern the las' stunt yuh had." Keller was still a bit unhappy over the stories that had come back from the Putney-Warren laboratories, even though they had been three months old when the laboratory was blown up, and four months old now.

"It's a lot worse than that was, Joe."

Keller looked disgusted, pained, and unbelieving. "Hooley," he replied at length. "Even the D. T.'s ain't as bad as that was. Hell, the guys wat came back here was all ravin' about it. I've seen 'em outa the D. T.'s but they don' believe it after."

"Uh-huh—only this happened to 'em. They had reason to believe it."

"Suppose, Joe, yuh let this-here gentleman tell his yarn in his own partic'lar way?" suggested the lanky, bronzed individual with the sun-faded hair, on the third side of the table. He was handling his glass with an air of knowing what it was, and not believing it a substance to be downed rapidly in order to enter the state known as inebriation. His other hand was rolling a cigarette. It was a neat cylinder when he finished, and he inserted it into one corner of his mouth and lit it with what seemed one motion, and a puff.

"All right! Watcha got?"

"Texas, and you too, Joe, what would you say if I told you the United States was going to war? And it was going to war in about four weeks more?"

"Huh?" demanded Keller. He sat up straighter. Even the lanky, easy-going Texan sat up a bit. "Who's got the idee they can swing *THIS* country?"

### Six Strong Men Are to Declare War

"SIX men have. They're declaring war. Or rather, announcing their rule. The first move will be complete destruction of all known fire-arms, the establishment of a secret police that has the power to execute on suspicion, and condemn without trial—and the removal of enemies."

"Hey—do you mean this?" asked Keller, his eyes narrowing sharply. He saw that Atkill was absolutely sincere. There was none of his air of laughing bore-

dom now. He was deadly serious. He meant all he said.

"I do. They intend to start with the United States, annex Canada, Mexico, and then take on European Nations."

"Who air these-here ambitious hombres?" demanded Texas.

"Old Man Nestor, and five associates, known as the Board of Control of the American Super-power," replied Atkill, "They own the patents that Warren worked out before the gentle souls bumped him off—and bought them from his heir for thirty grand. They'd sell for one hundred million any day in any week, and a billion with no great difficulty. The poor fool was probably tickled to get the thirty thousand. And they get patents that will bring any nation on earth to its knees in a single day!"

There was an unpleasant light in the lanky Texan's eyes, and his slight drawl had become much more pronounced. "And they feel that this here world is their private oyster, I reckon? How they figger they c'n do it?"

"They've got the Burt Hillen mob signed up for the job." Atkill's lips relapsed into a slight, grim smile. "And old Nestor is paying them half a million dollars a day. Then when they have finished getting control of the United States for him, Nestor figures they'll take their pay and get out."

Joe Keller whistled softly. "Sooo—tha's wat the Hillen mob's been up on. There's been strings out, sorta guesses, that they got sumpen big on. But who'd a gessed it was 'at big." He paused thoughtfully for several moments. "What are we goinna do, Atty?"

"What say we take over the ships they are building, and do the job ourselves." Atkill proposed.

The Texan looked at him sharply, then sank back a bit. Keller looked startled, thoughtful, and then finally shook his head. "No—we couldn't do it anyway, but—aw—somehow I like this ole U. S. A. I dunno—I wanna keep it. An' I'm damn sure I don' want Nestor and the rest of those big-wigs tryin' to run it. They'd—they'd wreck it."

### The World to Be Ruled with an Iron Hand

"NO," said Atkill with a hard little laugh, "they'd improve it immensely. Six strong men ruling the world with an iron hand—six strong men that could execute men on suspicion, without a 'fair, and reasonable trial' and without proving 'beyond reasonable doubts.' Trials that couldn't be beaten because somebody put a comma in the wrong place when the indictment was typed. Graft—hell, they'd make millions out of the country the first year. But six men would *RULE* the place, and they would see to it they got all the graft that was grafted. And six men just simply can't graft as much as ten or twenty thousand that work at it now. Postoffices where they were needed, not where they'd bring the most votes. No navy, no army, save those ten ships they're building now."

"Laws—half the laws on the books scratched off. Then perhaps two score sound laws that just couldn't



be broken. When there's a police force that doesn't have to prove everything, then if that police force is honest and just, there can't be any great amount of crime. Mistakes, yes. They'd make 'em sometimes, but with all the courts, they make mistakes now. And it wouldn't be five and six years between crime and execution, either.

"On the whole, for the people that can't take care of themselves, it would be better. But they wouldn't like it, because they think they can take care of themselves. That's why card sharps and dips make a fat living.

"But I wouldn't want the country that way. I asked that question merely to see what you'd say."

"Waal—what we say don't make such a big difference, I reckon, but what we *do*, might. The question seems to be what air you aimin' to do about it?" asked Texas.

Atkill smiled. "Well, Joe, that sounds to me as though it were about to be business. You joining the deal?"

"Wat yuh think?"

"Well, let's make some plans. How's the gang, all the old boys with you—I mean other than Marty and Rabbit? They're taking a prolonged vacation I understand."

"Yeah—the State thought they oughta. It even proved they'd oughta. The rest o' the gang's ready."

"All right. Now listen, both of you." Atkill leaned forward tensely, and the others listened sharply as he unfolded his plan in that dingy little room, where history was being made that night, though none, not even the two listeners, knew it, only Atkill himself.

#### CHAPTER XIV

"YOU know, Putt," said Warren thoughtfully, "I've been wondering what disposition of the patents Nestor will make. We will be able to start the return process in a day or two, and I'd like to know what to expect. What have you in mind?"

"Nestor tied up with Super-power, as I told you," began Putney. "Now why, other than to get us out of the way? It would be easy enough to bomb us. He makes planes, and he no doubt knew who your heir was, and could buy the patents. Why did he tie up with the Power crowd?"

"That's your question. Maybe he wanted power, or perhaps he needed money."

"He'd need an all-fired lot before it got too big for him to swing. I think he could scrape up two million in cash, himself."

"How much did our ship cost, Putt?"

"Seven hundred and fifty thousand. Three quarters of a million. It was a lot worse than I expected, too, because very few things were ready to hand. Even special furnaces had to be made after the beryllium was produced. It's lucky old Mac was ready for me, and willing to do it."

#### An Unpaid Loan

"He should have been," Warren grunted. "You

saved his neck when Nestor was after him a while ago. What was the loan you made him—and he hasn't yet paid?"

"Oh, nothing much. He can keep the money as a darned good investment. I had a job paying him for the work on this ship. Anyway, I'm getting very fat interest."

"Uh. Nothing much—something better than a million. Well, the question is, Putt, what will Nestor and Power Incorporated do, and why did they wait three months after we discovered it, to bomb us?"

"They waited, to make sure there would be a copy of the plans somewhere, where it wouldn't be destroyed, when we were, and they bought them merely as a formality, I suspect," answered Putney seriously.

"Huh? That's no formality—that gives them exclusive rights——"

#### Making Law—Not Appealing to It

"DO you think they're appealing to the law? No, not by a long shot. I'll bet that jolly crowd are *making* law by now, if time is faster there than here, and we suspect it is. Why did Nestor join? Because ships cost about a million apiece, and he wanted several ships. He knows plenty of gun-gangs, that will throw in with him on this proposition. Listen, Man. Don't you realize that with this ship we could bring the whole world to its knees, take every dollar, every pound and every mark we wanted? Do you think any navy or air force could stop this for thirty seconds? Do you think Nestor doesn't know that? He wanted the power-men in, because it made it easier. I'll bet they were willing enough too, when they realized just how valuable their power franchises would be with this invention on the market. Look here, Nestor wanted money. He wanted big money quickly, from some one of whom he could get a hold, and the power utilities offered him an excellent chance. When they were accessories to the bombing, and supposed murder of our men, they'd hold together."

"They build the ships, from the patent diagrams they can get hold of easily enough. They are all ready to attack—and simply cut off all power over the United States. They destroy the plants, so that power can't be restored, save by the ships, for no other means are available—the nation without power—the railroads dragging out old steam locomotives, that have been used for switching for the last two decades, and that are unable to move faster than a crawl. New York cannot get food in the vast quantities it needs it. Planes can't bring it. Ships can't bring enough, when all the distributive systems are tied up. No lights. No elevators—the whole city paralyzed for want of power, and in semi-panic."

Then the ships. Unheard of—tremendously deadly. Why, they could freeze the Hudson and the North River, and even ocean ships couldn't get there for days. Floods because of ice-jammed rivers. Do you see what would happen? They don't have to take the patents by

due process of law—they just grab them, and then make the laws!"

### To Grab the Patents and Make the Law for Themselves

Warren whistled softly. "Nice people. Wonder if they'll do that?" he asked speculatively to himself.

"Do it—of course they'll do it!"

"Will they be able to—I wonder what their men will say. They'll have to use gangsters, or train a crew of equally unscrupulous men. Now having the country in their power, will they be willing to turn it over to Nestor and his crowd?"

"Nestor hasn't the conscience of a gangster, but he has a lot more brains. He's probably arranged some beautiful system for killing off everyone of his men, save one crew, of one ship, which he can absolutely trust. If I were doing it, I'd have a poisonous gas flask ready to release when a certain radio signal was given from the flagship. That would eliminate most of his problems. A secret police with full powers of execution without trial, would speedily eliminate all others."

"Ummm. Nice people, as I believe I have said." Warren's mouth twisted as though he had tasted something nauseous.

"What are we going to do?" he went on.

"We've tried out all those things you wanted to, at the expense of a few of our seemingly endless supplies of steel ingots. How many did you store by the way?"

"One hundred and fifty, Putt. There are one hundred and forty-one left."

"We'll simply have to go back and use them. Perhaps we can disuade the Nestor and Powers crowd. We might wait till Nestor has removed his extraneous crews."

"How do you know he will, Putt?"

"Lord, Ran, he's no fool, and you stated the problem exactly. The gangs have to wait till he shows them how to win, he has to wait till they've won—and we have to wait till they've been cut down to our size." Putney said.

"—and half the population has been killed off?" continued Warren.

"Wait till we know what month we get back," suggested Putney more practically.

\* \* \* \*

A tiny sliver of moon floated rather low over the horizon. It was dark, very dark, and the stars seemed to cast no light at all. A tremendous shed loomed up against the starlight a short distance ahead, as the three large autogyros sank soundlessly to earth, in the broad field. There was one square of light in the near corner of the great hangar, and across it fine lines seemed drawn. A wire fence stood between the newly-landed machines and the building.

### Intruders from Autogyros

FULLY a score of figures tumbled from the three machines, and on the back of each was a peculiar

pack that hummed very slightly as they advanced. Each man walked softly, looking occasionally at the leather strap about his wrist, carrying a small disc of some gray-white material. And each man carried a machine-rifle, a gun weighing little more than twenty pounds, shooting extremely high velocity .22 caliber bullets, at the rate of 300 a minute. The stock was thick, and carried a broad chest-plate to protect the firer.

Two low humming notes sounded softly, and the various groups of men moved toward the wire fence. One man, evidently the leader, carried a suitcase, and wore a peculiar mask over his face. In the other hand was a square, box-like apparatus which he pointed in many directions as he walked. Yet another man was leading him.

"Take it easy, Tex. I can see the fence all right, but this damned infra-red rectifier is blurry. It's not as fast as ordinary light you know, in the cells. There are four sentries walking about pussy-foot, and three more lying down. They haven't seen us, but they shine like blinding lights in this thing. They're sure radiating heat. More to the left."

The men went off toward the left. After a moment the masked man halted them, and sent forward two with heavy clippers. "Take it easy," he whispered, "they've got electro-static charges on that fence, and you have to give your equalizer a break on that. Approach slowly, cut quickly, but *don't* make a sound. Hold the wires with your hands, Shorty, and you, Pete, cut gently. Go."

The two forms went forward, and disappeared from the sight of the others in an instant. Clouds had come up, and even the minute light of the moon was gone. Approaching with the hills behind them, they were invisible to the watchers beyond the fence, but the man with the mask saw them clearly as they cut a section from the fence. One man ran a wire about the section they intended to cut free, maintaining the circuit of metal, after the metal fence had been carried away, and finally laid gently on the soft turf.

"All right. Forward. Follow me," ordered Atkill, his voice muffled by the mask.

They went forward quietly. Twice Atkill turned sharply from his path as the mask spotted ultra-violet beam traps, which gave off infra-red as well, despite the fact that no visible light escaped. Again he turned aside for a complex, electrostatic trap.

Finally the twenty-three men were less than thirty feet from the door, the door that opened into the office of the great hangar, and the only one not locked.

Atkill took off his mask, deposited the suitcase and the black box of the detector and cells on the ground, then took a Very pistol from Texas, and a machine rifle from Joe.

### The Attack on the Laboratory Begins

HE pointed the Very pistol upwards, pressed it, and an instant later the rocket light flamed upwards. Two seconds later a far greater rocket soared

up from the planes, out beyond the fence, and an instant later a blindingly bright magnesium flare was drifting down from a parachute. The entire grounds were thrown into brilliant relief of clear, white light. Seven men had turned at the sight of the Very light, whirled bewildered at the hiss of the rocket beyond the fence, and stood rooted, and blinded under the light of the magnesium flare. Twenty-three men had been standing by the wall, staring steadily at the lens of a brilliant flashlight, and their eyes were accustomed to the glare of light now. The machine-rifles spit viciously, and seven armed guards sprawled on the turf.

Simultaneously a howl of surprise and rage came from behind the door, and a giant of a man stumbled out to see the trouble. He sprawled dead before the pistol in his hand could speak, and three men charged over his body, shooting, into the guard-office. There were the heavier barks of automatics mingled with the snappish clatter of the small-caliber, high-velocity machine guns.

Three more men charged in behind them, ready to shoot. There was no need. Electric floodlights had snapped on outside now, and a siren was howling disconsolately somewhere, half drowning the cries and bellows of men. There was a rush of feet beyond the inner door of the office, men running across the concrete floor of the hangar.

The inner door went down with a crash as two men hurled themselves against it, through it, and began shooting inside. An echoing volley of heavy shots returned the lighter barks of the machine-rifles. Then came the heavy, rapid fire of a high-power non-portable machine gun. There were ten men inside the hangar now—and none of them had been wounded! They stood up under the blaze of light, and returned the fire of the enemy hotly, turning to face them rather than swinging their guns.

Suddenly one went down, the barrel of his gun a twisted mass of iron, the breech burst wide. His own gun had exploded as an enemy bullet struck it.

In twenty seconds there were no more shots heard inside the hangar.

"Ten men on the doors. Have your guns placed. See if the heavy machines here are workable. Defend the place as long as possible. They'll have the field guns working. Chatter a machine gun to make 'em think they've got friends here." Atkill was barking orders sharply. Men hastened to do as he told them.

### Invading the Air Ship

"TEX, Joe, Shorty and Pete—come." They raced toward a great dirigible-shaped hull of silver metal. The hull was completely formed, but there were ladders, mechanics tools, scaffolding about it. The windows were not all installed, the thing was not yet completed. "This'll do. It's the most nearly completed, come on."

Into the ship they plunged, ready with guns for resistance, but the mechanics had fled. Atkill found his way quickly to the power room.

Banked machinery formed a circle about a great block of rough, rusted iron. Dully gleaming control boards, with banks of instruments showed on one side of the great room at the heart of the steel-walled ship. The lights the men carried swept about.

"Tex, take off your pack." Texas seemed leisurely in his movements, but in a surprisingly short time the pack was at Atkill's feet. Atkill opened it quickly, and within it were tiny mechanisms like these giant machines here, a tiny control board, and a speck of iron, a blue-white flame of unwavering intensity burning above it. And beside it were two heavy copper bars.

Atkill rose, and looked at the mechanisms with apparent negligence, but with a glance that took in everything.

"Thank the Lord 'Boozey' wasn't too drunk to talk straight. She's ready to start. We'll need five and a half minutes. Joe, send every man out—they've started attacking—send every man out to the doors. Make sure they don't get in. If a shell blows a hole in the wall, put the men under the hulls of the ships. These walls are three feet thick, and will shed anything man ever sent—except forces, and I don't believe they're using them. Go to it."

### The Work on the Air Ship

Instantly he turned himself, and with amazing precision adjusted a hundred complex instruments; he took from one of the packs the men had carried, three heavy copper bus bars, and in a moment had them connected with Texas' pack. These he connected to similar connectors on the ship's machines.

He was busy again with the dials. Finally he bent over the little pack, and turned something. The blue-white flame dulled, turned an angry red, and a low, powerful hum set up. Something seemed twisting, dragging everything, every atom of them, toward the massive block of iron, yet nothing moved them, they staid where they were. There was a queer activity on the surface of the iron, and Atkill's black eyes stared at it sharply. The surface writhed, the rust seemed to dissolve, and powdered metal remained. Something seemed whirling just above the surface of the iron, the metal licked upward, and a blaze of sudden white light smote down at the men. The surface of the iron was white hot, and an instant later the burst of light came and went again, again and again, faster, then they merged to one, and a dull roaring set up. The ball of flame was a foot in diameter, growing swiftly. Atkill sprang to the controls, and made rapid adjustments, watching the growing, pulsing flame.

Something screamed outside, then there was a terrific detonation. A man cried out in agony, and running feet echoed across the concrete floor.

"Tex—call 'em in. We're going. We can't wait," ordered Atkill.

THE Texan disappeared, shouted something. A moment later the lights in the ship flashed on as Atkill pulled a switch. They glowed, flickered, then



burned steadily white. The tiny pack release-flame was glowing blue-white once more. Atkill stooped, adjusted something, and it shrank slightly. The great release flame burning on the block of iron was glowing steadily now. Scrambling feet echoed on iron. Texas stuck his head in through the doorway.

"Thar in."

Atkill pulled a switch, the release-flame dulled momentarily, and the crack and clatter of falling, severed scaffolding echoed into the ship. Something whined again and exploded heavily. There was a terrific crash as a portion of the wall fell in. The ship though, was undamaged. The force-field was up.

With a swoop of power, a crushing weight fell on the men aboard. Atkill looked from his window, and saw the walls of the hangar drop swiftly downward, then the slope of the roof appeared. With a terrific crash the ship smashed her way out through a hole torn in the roof, and vanished into the night.

Atkill smiled happily at the lank, tanned Texan. "Did it?"

Below, men milled about in the hangar, helping men caught under the fallen roof, attending to the wounded, who were few, and the dead, who were numerous, and their own, and calling frantically on a telephone line that didn't work.

An autogyro roared, and sailed away. A crowd of men swarmed from the hangar in time to see it disappear into the night.

Ten minutes later a second had been filled with gas, a smashed carbureter replaced, and the machine headed for New York as it took the air.

Burt Hillen was cursing furiously as he surveyed the wreckage. "The blankety blank son of a so-an-so. An' wat the hell happened to you guys? Yellah? My God, the way yuh all lit out wen they showed up! Tha's the Keller mob, an' we're due to get that so-and-so. Go on—clean this joint up. They got one o' them things, an' I dunno who was wid 'em, but he got it started. That means we gotta fight *THAT* when we start—an' it's ol' Fox-face's private ship." He expressed his opinions at length, and stared at the hole in the roof through which the vanished ship had gone.

But it didn't bring back the ship, and it didn't bring back Atkill.

## CHAPTER XV

**T**HADDEUS Nestor sat at the head of the table. The table was beautiful dark mahogany, the walls were hung with thick velvet drapes—and sound-proofing materials.

Down the sides of the table the five other men, who represented the directorate of the American Super-power, were sitting, and listening to him anxiously, for what he had to say meant a great deal to them.

"And so, gentlemen, due to the inefficiency of our guards, the thieves stole that ship, the flagship. There are nine remaining ships, but none were quite so powerful as it. That, and the fact that it was most nearly completed, was the reason it was chosen no doubt, I

doubt if they knew of—the arrangement as we may say.

"But I know who it was! It was that lying, murderous, crooked, untrustworthy blackguard, Atkill, with his villainous gang of cut-throats and murderers. I've seen to it that all our guards were notified of those who committed the theft and the attack, and I've taken the liberty to offer a reward of a quarter of a million for their capture, and the return of the ship.

"However, I fear it is useless. The blackguard is cunning, with the low cunning of rats. He forced me to pay him fifty thousand dollars for some junk apparatus I had foolishly given him permission to leave in my laboratory—the ingrate. I paid him one hundred thousand dollars for a month's work—and that's his return." Nestor truly convinced himself he had been badly handled. Now he was afraid.

"He has of course, examined those patents, and knows all that we know about the possibilities of the thing, but there is one thing that worries me. Warren mentioned artificial gravity in the presence of a certain man who has reported to me, a laboratory secretary named Wilson, and we have not found any means of producing artificial gravity.

### The Production of Artificial Gravity

"It is evident that there are more possibilities our men have not found. They tell me they understand it, but I'm not sure—"

William Fordham, President of the Atlantic Power Corporation, Vice-President of the American Super-Power, interrupted. "They don't know what it's all about. They merely follow the directions of the patents, and they get a machine that does this or that, as the papers say. The fools can't even find out what makes it happen."

"Uh. I didn't think they could," went on Nestor. "But Atkill's a brainy rat. I'm sure he has figured it out, and he may have something new, that we don't know about.

"Now I wonder if it wouldn't be advisable to buy him and his group in with us. He could cause a great deal of trouble, particularly if he waited till after we had—er—discharged our allies."

"I vote we do," said Fordham.

The others concurred. "We'll buy him in then, at the lowest price we can," decided Nestor.

\* \* \* \*

Burt Hillen was also holding a council that morning, and on the same subject—the manner of dealing with Joe Keller and Company. Burt was listening to an impassioned oration from "Tiny" Morgan. Tiny was six feet six tall, and four feet broad, and weighed 257 pounds. Also he could shoot so rapidly, and so accurately, that while he was living a long time in gangland, he was much feared. Tiny's only trouble was one he did not realize. He had the bulk and strength of an elephant, and the brain of an ant.

"All yuh say may be perf'cly true, Tiny, but I heard of a yarn about a guy wat wanted to make rabbit pie, and the first ting they said was to git the rabbit. Them

gumps has got the ship, and they've gone. Try an' fin' 'em."

Somebody knocked on the outer door of the guard office. The pounding hammers on the ships and the racket of repairs to the great roof of the hangar almost drowned the sounds, but the signal knocks were recognizable. Burt reached out a hand and pressed a button. The door opened of itself. "Yeah?" he demanded. "Dumb" Bell, who served in the rôle of a secretary to the Chief of the organization stuck his head in. It was a wizened, bald head. The man looked about fifty, and was actually thirty-two. The face was sharp, and pinched. Aloysius Bell he had started out in life, but the name "Dumb" quickly attached itself, because he was markedly other than dumb, and because it suited his last name so perfectly.

"Chemmy's outside. Got sumpin' important."

"Huh? Chemmy? Oh, yeah. I had him come down didn't I? Sen' him in," ordered Hillen indifferently.

"Chemmy" was the chief chemist of Hillen's industries. He was foreman over the workers who synthesized the drugs the Hillen mob sold, and the alcohol they made into drinks. At one time he had been James Ogden Brent, Ph.D., and a number of other things. He had, however, synthesized a new drug, tried it on animals, and found it harmless. He tried it on himself, and found it was so powerfully a habit-former that a single dose put him forever in its grip.

He was in the hands of the gang now, and Hillen had sent him out here to-day to look at these ships. Somewhere in Hillen's clever, twisted mind there lurked the idea that a scientist of his own should look over these scientific marvels, and pronounce them fit for him.

Brent came in, a little stooped man, his eyes unnaturally bright, unnaturally quick. "Hello, Hillen. Who built these ships?" he asked as soon as he passed the threshold.

"Huh? Old Fox-face's mechanics a course."

"Well, listen. If you go aboard those ships after the windows are in, he can kill you any time he wants, without touching the ship," snapped the little man.

Hillen stiffened. Tiny Morgan let out a bull roar of anger. "Yuh mean that?" asked Hillen softly, as he settled back. "How?"

"I was looking over the arrangements for the purification of the air in the ship, and I saw that the apparatus was well, and cleverly designed. It will do its job very well. But there was one pipe-line I could not understand, that led into the main return pipes—the pipes that would distribute the air through the ship. I also noticed something that I thought was a radio set, and as I could see no reason for a radio set there, I sent for 'Sparks' Cohen. He's the head of the communications department, and a very clever radio man. He told me that a certain kind of radio signal would, at any time, cause the valve to open, and any gas, that was in that pipe line, would be distributed through the ship. While he had been on the way here, I followed the pipe-line back, and finally found a water tank that didn't hold water, but 'akalite'. Akalite is liquid, and

looks like water in the gauge, but actually it is a low-boiling liquid, so deadly that it will kill a human being diluted one part in a million in the air. The radio set could release that gas into the ventilating system of the ship, and kill the entire crew of the ship in less than ten seconds.

### The Poison Vapor on the Air Ships

"EIGHT of the ships are so equipped; the ninth was, and the equipment has been taken out, all save the actual deadly akalite, which could only be removed with the aid of gas masks. That would have been noticed. As it is, the ninth ship is perfectly safe. It is the flagship."

"The one old Fox-face and his friends will ride on, isn't it? Beautiful scheme—bee-ut-ie-ful." A slow, hard smile spread across Hillen's face. "Verry, verry pretty. So we takes the country fer him, and den he wipes us out—an' he has the whole works—and we have a swell funeral. Verry clever." Hillen's smile was cold, deadly.

"That—damn stinkin' double-crossin' Fox-faced monkey! The so-and-so wan'ed us to get in—an' den he wipes us!" Tiny was roaring again.

"Tiny," said Hillen coldly, "sit down."

Tiny sat. "Well, watcha gonna do—let him go? Hey, lemme get dat guy, willya?" he demanded.

"Yes, Tiny, I think we let him go. Uhuh. We let him go. We make sure he don' know we know. Then he'll go ahead, an' let us take the country fer him—only we'll be doin' it fer ourselves." Hillen's face was smiling pleasantly now, he looked pleased. His eyes were black, and little gleams of murder dwelt in them. "An' after we've done it—when he's all ready, an' sends that signal, an' tries to turn on the gas—we'll turn somethin' on him, maybe—!"

"Chemmy, call Sparks in here, and we'll have a talk. Come on," ordered Hillen. His lips still smiled, and his eyes were beginning to smile when the chemist returned with the radio man.

## CHAPTER XVI

"S—O—S—S—O—S—" On the air over the whole nation the dread letters came through. Radio stations shut down abruptly, every broadcasting station cut off the air, and twenty million television sets went blank after the brief announcement.

Strangely, after the letters came through, there was no message to follow, and even more strangely, the call was heard on every broadcasting wavelength!

Perhaps station attendants wondered at that, but they did not wonder long, for the strong, clear signals suddenly stopped.

### The Message of the Council of Five

"THE air is clear. The message of the Council of Five will be delivered." A deep, powerful voice spoke, but no television disc signals came, no view of the man. Every wavelength gave the signals clearly.

Every one of the still waiting radio sets resounded with the deep voice.

"The Council of Five declares the United States no longer a republic. The Council of Five shall hereafter rule this nation, and within the year, the nations of earth.

"The warships of the Council of Five will appear over New York City at ten o'clock to-morrow. Part of the fleet will appear over Washington at the same time. The financial and political capitals will be expected to signify their acceptance of the Council by the lowering of the conventional flag, and the raising of a flag whose field is bright blue, and on which appear five white stars, one in each corner and one in the center.

"Resistance is not advisable. The Council of Five has weapons beyond any known to the rest of mankind.

"The Council has spoken."

The air was silent. Perhaps many that night turned off their radios as they heard some part of an impossible play coming over the air, heard some lines from an author's flight of fancy.

But they began to believe soon, when they heard the cries of amazement and anger in a thousand towns and a hundred thousand villages.

#### Where Did the Message Come From?

POLICE and Army and Navy officials were busy now, intercommunicating, attempting to locate the center of the disturbance, whence that message came. It was hopeless. Their results were impossible. Apparently the message had started somewhere over Florida, and its sender had moved, during the course of the message, till it ended over south-western Washington. The thing was impossible. They gave it up in disgust, and perhaps in fear, and began sending orders. Troops began to move toward New York and Washington that night. Battleships started suddenly in the same directions. The Pacific fleet hurried toward San Francisco and Santa Monica, Seattle, and the other great west-coast cities.

Air forces moved swiftly, and before dawn a tremendous fleet of planes was congregated about the fields of Washington, D. C., and New York.

And high above both cities a dozen or so of the newest planes, the radio-guided and radio-powered ships swung back and forth. Noiseless—invisible in the blue—

#### Destruction of All Power

RESTLESS mobs howled and cursed sleepless all night, the troops fell to disciplining them as they arrived, and the lights of the city blazed till dawn. At dawn, New York and Washington time, every light went out, every train stopped, every line of transportation was suddenly dead. In both cities the power was gone, and across the whole nation the electric power ceased to be. Trains stopped, subways suddenly were motionless.

Chaos in an hour. The mobs went mad; struggling people in the subways shrieked and howled and roared as their disposition might be. But at the end of an hour trains began to move cautiously, only sufficient to get the people from them safely, elevators that had left men and women trapped one hundred, or perhaps more stories above the ground, began to work to carry them down, never up.

The city was drawing on its giant batteries. The power batteries that were intended for emergency came into use. There were no men in the power plants, and no power came from other cities, from outside. Army engineers threw in the batteries, then as battleships steamed into the harbor, great cables from their dynamos carried a measure of power across to the paralyzed city.

Telephones had operated, for they were maintained by the emergency power generators, which every station contains. Radio had failed, save the army portable apparatus, for the great stations depended on the power lines.

The Council of Five had stricken the city, turned a howling, angry mob of vengeful men into a paralyzed, panicky crowd, struggling to escape something, they did not know what, that had completely disorganized their city, left them trapped in burrows under the streets, or in perches high above them. Here and there fires, and terrific explosions had broken out, for the radio controlled and powered planes had come down, uncontrolled and unpowered, when the power failed.

Further, power would not be restored, the meager output of three battleships could not sustain the city, the tremendous batteries were not to be wasted. And the power plants were hopelessly wrecked. A small plant had gone first, destroyed by a sudden reversal of its phase, and it was pumping power against the power-tide of a nation. From transformer to generators all was wrecked. A neighboring power plant suddenly got the double strain—it went the way of its predecessor. Like giant snowballs ever gaining volume, plant after plant went, till finally half a dozen of the greatest alone remained, and the power load of the United States was thrown on them suddenly.

#### The Great Defensive Tubes

IT would be months before effective power was available. Army engineers were rushing about in wild anxiety. There were guns, there were planes, but the thing they had greatest hope for had been the great, sleek tubes that had been mounted in a dozen places about the city. Fifteen feet long, their thick, glassy walls glowed red as the rising sun painted them. Inside the outer tube, an inner tube of copper reached up ten feet of the length, to end in a crystal glass tube. Great power-elements inside the glass, and a huge bowl of copper screening just below this juncture point told its purpose. These Harrell tubes were new, tremendous tubes that were simply radio tubes and sending sets in one combination, but they could handle a hundred thousand horsepower, and all that power was



reflected from that curiously, light, and ineffective-seeming copper screening, and it went out as a beam that was absolutely deadly to any man or animal and destructive to any piece of metal in its path.

**B**UT—to send one hundred thousand horsepower of radio energy, two hundred and fifteen thousand horsepower of electrical energy was needed. The three ships in the harbor could not quite supply the energy for one of these tubes. They had planned to use a dozen. The batteries would supply them, run them for ten minutes, perhaps. And if those ships the Council of Five had spoken of could move as they seemed to have moved last evening, no shell would ever catch them, only these beams, traveling at the Ultimate Speed, the speed of light.

Commander Gilbert C. Coache gave his orders very energetically, and very hopelessly. Secretly, he felt sure that the losses would be heavy. Guns could not cope with any ship that could display that speed—some rocket ship of undreamed of power.

He was very angry, and very nervous. He had been working now since the previous morning, and working desperately since the previous evening, when he had been given the command of the defenses of New York City.

"Power—power—damn it, that's all I want, Major. I can't do thing if you can't give me power."

"I'm sorry sir, but the only form of electric power in the city are the indispensable telephone generators, three-quarter-full batteries, and the power from the ships. Boston, Philadelphia, Albany, Newark, why every city about has batteries that would give us all the power we need, but Lord, the damn things won't pump power through a transformer, and these lines are all A. C. lines. I'm as anxious as you—but I can't do anything. There've been at least six thousand nuts pestering me with bright ideas since I came here. One man wanted us to commandeer all the automobile batteries, and use them. But——"

#### Commander Coache Wants Power

**"I SAID power!"** Commander Coache hung up. He lit a cigarette, took two puffs, and was reminded he hadn't eaten in hours. He threw it away. He was so hungry he couldn't smoke, so tired he couldn't see straight, and so busy he couldn't sleep. Ten o'clock. Four hours more.

He shook his head, and pushed a button for his next visitor. He jumped as the window behind him crashed to the floor in splinters, and a hole a foot across appeared miraculously in the plaster of the wall opposite him. A dum-dum bullet had come through the window, and missed him widely. The Commander dropped below the window level, and crawled hurriedly beneath the sill of the broken window. He let out a roar to the men outside his office.

"Who did that?" he demanded.

The Commander had been working on the second floor of an office building in the heart of New York.

Across the street, in a second story window, a man was jumping up and down, and heaving a rifle. He paused to direct a bullet at the Commander's window, and continued his performance.

"Bring that man over here!" snapped the Commander. The half-dozen officers and orderlies who had tumbled in, tumbled out, and raced across to that other building. The Commander's personal dignity and personal safety had been touched, also the Commander hoped that anyone, firing at him, must be connected in some way with the Council of Five.

Three officers returned shortly, bringing a man none too gently. His hair was mussed, his clothes much awry, but he was smiling. He was tall, powerfully built, with a keen intelligent face.

"Hello, Commander. I met you at last," he grinned.

"Who the hell are you, and what's the idea of trying to snipe me?"

"Oh, you misunderstand me, Commander. I was merely trying to snipe your attention. For the last three hours I have been throwing myself in the way of Major Kendrill, but didn't succeed in seeing him. I tried here for about half an hour, then went across the street and tried that way. I at least attracted your attention."

The Commander glared at him. "What do you want?" he snapped.

The smile disappeared abruptly from the man's face. He was suddenly serious, intent. "Commander, what do you want most right now?"

#### The Commander Wants Power

**"POWER,** damn it, power to run my Harrell tubes," replied the Commander with a groan.

"And that's what I've spent three hours trying to give you. Kendrill didn't have time for me, he was busy talking to some nut who wanted him to use automobile generators for power. He'd never heard of James Atkill, and wouldn't see me, too busy with those nuts."

"Anyway, how much power do you want?"

The Commander looked at him sharply. "James Atkill. Are you he?"

"Right." The smile was back.

"I want at least four million horsepower."

"Make it five. Can you handle it, if I put it on your lines all in one place?"

"Yes. I think so. Where do you get it, Canada?"

"No. Generate it. Come on, and call Kendrill. I'll demonstrate."

The Commander followed without a word. Three dazed officers watched him go with the lunatic that first shot at him, then made him follow him.

The Commander followed half a block to a public hangar, where a small cabin autogyro was parked in Atkill's name. From it, Atkill, with the aid of two men, took a small, very heavy packing case, and a second box of black bakelite, surmounted by a glass globe, under which burned a flame of steady, unwinking white

light. It seemed frozen flame, motionless, undisturbed by position.

"What voltage here?" he demanded of the hangar attendant, indicating the lights.

"One-ten."

Atkill set something, plugged a wire into the wall socket—the lights suddenly blazed up, the lights on the streets winked once, and died instantly. "Fuse blew out. Current going the wrong way now." But the hangar lights still burned.

"What is that?" demanded the Commander.

"This is a Warren atomic generator. Ever hear of 'em?"

"NO—let's see, wasn't Warren that scientist that was blown up by something he was working on?"

"Nope—he was blown up, but he was blown up by our mutual friend Thaddeus Nestor, head of the Council of Five," replied Atkill. "I know. He wanted me to do it for him, and I backed out. Principally because I thought too much of Warren, and too little of Nestor. Warren's a better man than I am I guess—or was. The man was clever to make this. That thing is patented—the patents are in Washington, and nobody ever took the trouble to investigate them after Warren died, except Nestor. He bought the patents. I'm bootlegging this thing, liable to infringement of the patent laws." Atkill grinned ingratiatingly. "Go in' to prosecute?"

"Nestor! Council of Five! Who the hell are the others?" demanded the Commander.

### Who Are the Others?

"NOT that that'll do you any good, but the others are William J. Fordham, Arthur Benholt, Thomas Ringman and one 'Burt' Hillen."

"Fordham, Benholt and Ringman—the power men. That's why the power plants all went up. They're in on this, eh? But who's Hillen? Never heard of him."

"Huh—probably not. He was a secondary gang leader in New York here. He supplied the men who run the air ships. I stole one of the ships with the aid of Joe Keller and his gang. We had quite a shooting scrap up-state. Nobody made any complaints, so you didn't hear. Our ship is painted with a huge American flag, so don't fire on it when we come. We may be able to help, you know. I would have come to the government sooner, but I'd simply have gotten kicked out for my pains. I had to almost assassinate you before I could see you now."

"If Nestor wins, there will be a Council of Four. Hillen and Company, having served their purpose, will be wiped out by an ingenious little radio-controlled gas arrangement in each ship. We stole the flagship, and found the controls for the device in it. They'll have changed the controls of course, but I'm going to try it when the battle starts, anyway."

"Now if you will show me where you want this power delivered, I'll put the generator in."

"How much power?"

"This, my dear sir, is the energy of annihilated mat-

ter. I could produce enough energy with this small machine here to fuse New York State in about ten seconds. I've been too busy with that captured ship—it wasn't finished—to make weapons, but just call for all the power you want."

"Come on. Damn Kendrill. The batteries are in the New York Edison plant, and that's the best distributing point," said the Commander.

Half an hour later a group of men watched Atkill kindle the release-flame on the top of a two-hundred-pound block of soft, grey iron. It burned steady and white and cold, and the meters on the wall jumped into life. Direct current he was using, direct current that poured into the giant batteries now, and into the mains that led across the city. A million lights blazed suddenly into life, a thousand trains started throbbing as the electric pumps automatically compressed air into the tanks. A sudden hush came over the city, noise died suddenly. The great mobs that had been struggling, shouting, panic-stricken nearly, were filled with a sudden hope as the familiar, comforting power came back. The meters on the walls rose to undreamt of heights, as toasters, coffee pots, waffle irons, lights, motors, a thousand and one things about the city came to life. And too, the giant batteries were drinking deep of the power-flood.

A group of bewildered engineers stared at a neat black cabinet, a rough, grey mass, and a clear, cold white flame that burned unwinking and unmoving on the block of metal.

"Good God, man, how long can that last?" asked the army engineer standing beside Atkill.

"That," replied Atkill with a faint smile, "will last about a century and a half at the present rate of consumption, thanks to the genius of the greatest physicist that ever lived, Randolph Warren. I used to think I was good, but there are things about these generators even I can't see the why of, and though I know there are a thousand other things to learn, I can learn but a few. The field of absolute zero Warren had, I can't find. A field that will extinguish that flame before the fuel runs out Warren had, from some of his statements in the patents, yet I can't find it."

"But that will last far longer than you will."

The men looked up at the clock by common impulse. It was fifteen minutes of ten o'clock.

"I'll have to go," said Atkill. On the roof of the powerhouse he entered his autogyro, and flashed away to the southwest.

### Power at Last

THE men in the power house looked at the steady white flame, at the meters, and followed Atkill's simple instructions.

"Leave it alone," he had said, "Leave it alone, and draw all the power you need. If I am killed, just draw on it till the fuel is gone, and then the flame will go out automatically. Before that time you cannot change it in the slightest."



And it would be a century and a half before that fuel was gone!

## CHAPTER XVII

"I THINK, Major Kendrill, that it will be best to communicate with Washington, and announce that we have power," said Commander Coache. He winked a very broad wink. Major Kendrill looked puzzled.

"But," he objected, "that will simply mean that the full forces of the Council of Five will be directed against us, instead of having a divided force to fight."

"Certainly, Jack, certainly. That's exactly what I want, you nut." Commander Coache became suddenly Gil Coache, arguing with his old and good friend Jack Kendrill. "We've got power to fight 'em, and they have just nine ships, Atkill said. He will be here to help us. He *can't* divide his force. Washington has no power, and *no* defense. We can't battle them here if there is another half of their force hanging over Washington, and announcing that they are going to wipe out that city if we so much as harm one of their machines here. Atkill solemnly assures me they could—and without a second thought they *would*."

"Right!" agreed the Major.

A few minutes later the most powerful broadcasting station in New York City was sending out its message on twice its usual power.

"Power has been supplied to this city at the last minute! Dr. James Atkill, famous physicist, appeared here shortly before nine, and offered to Commander Coache a new generator of power.

"It was brought in a small autogyro, and is scarcely larger than a good-sized packing box. Yet it is now supplying the entire city with unlimited power. With this sudden, and welcome power, the best defense of the city, the powerful Harrell tubes become operative.

### Victory for the Country Is Certain

"DR. ATKILL has left now, to join his men, who have a ship similar to those of the so-called Council of Five, but more powerful, for the scientist has introduced more weapons. It is confidently felt that between the ground forces and the powerful force in the sky, the few ships the Council can bring against us will be destroyed! Dr. Atkill reported also that there were but nine ships in the hands of the enemy, so if the forces are divided between Washington and New York, victory is certain."

Commander Coache chuckled as he heard it over the radio, and eight million other people, in and near New York, sighed with relief as their radios brought them the glad tidings. With the coming of power they were once more in touch with the world, and the world was well!

\* \* \* \*

THADDEUS NESTOR scowled blackly at the radio. The ship under his feet heaved slightly as a powerful up-draft rocked even its massive struc-

ture. "Well," he queried impatiently, "what shall we do?"

"We can't afford to lose our ships—we can't afford it. If we don't have them, the whole venture is lost. I am sure that ungrateful renegade, Atkill, will have told them who we are," wailed Ringman.

Nestor scowled even more deeply. Fordham looked thoughtful. "I wonder if they'd dare attack our ships over New York," he suggested, "if the ships over Washington threatened to destroy that city."

Nestor's scowl vanished. Ringman sat up with a look of dawning joy.

"Oh, of course not," he said happily. "We could kill every man and child in the city. They wouldn't dare."

"If they destroy one ship, we'll rip up Pennsylvania Avenue with the heat ray. I think that would stop them. And we can send four ships to New York, and five here, as planned," went on Fordham. "Give the orders, Nestor."

Nestor gave the orders unwillingly. Fordham was taking control, and Nestor didn't like it. However, that was the right idea. There would be no battle in New York, Washington would be the scene of any trouble.

In three minutes the orders had been given, and in another one the ultimatum had been given to New York City and its defenders.

### The Ensign of the Attackers—of the Five

HIGH above the city of New York four slim ships floated. On the side of each metal hull was a patch of bright blue paint, with five silvery stars on it.

Deep under New York City Commander Coache was sitting at his desk, his head in his hands.

"I was afraid of that—but there was nothing else to try. I hoped they wouldn't think of it—but it's too obvious."

Something wailed through the sky like a dart of red and white. High—very high in the air. It seemed pointed with a long nose of light, and the sword of radiance swept suddenly, and struck a shining dirigible of metal squarely amidships. The dirigible of metal exploded with a terrific thunder, yet without a flash of light. The two halves were flung abruptly across the heavens in opposite directions, falling rapidly toward New York City and its crowded populace. Something stopped them, gripped the two halves, and drew them together again, then hurled them with a force inconceivable out toward the open sea. They glowed white-hot, shining brilliantly in the young morning light. Far out at sea they fell with a terrific hiss.

Long before they fell, a second ship had been caught in the grip of that same hurling force, and went flying end over end, out to sea, and down. It struck off Sandy Hook, and was crushed beyond all recognition, driven through thirty fathoms of water, and twenty feet into sand and mud and shattered rock.

But then the other two ships began their work. And the land defense stations, which had been ordered to

remain inactive, became very active, as the orders were countermanded.

Reaching fingers, that glowed green in the daylight, reached out toward the fighting, streaking ships—the red-and-white dart of Atkill's ship, covered with an enormous American flag, and the silvery darts of the ships of the Council of Five.

### The Strapped and Bound Crew of Atkill's Ship

BURT HILLEN was commanding one of those ships, and he fought as best he knew how, but what did any of them know of this new fighting at terrific speed, and under terrific acceleration. Atkill's men were strapped and bound at their posts, their hands scarcely capable of movement. They were splinted and bound in position that they might withstand a slightly greater acceleration, and have that extra ten feet of speed per time-unit, that would put them beyond the reaching finger of a ray.

A dozen rays from ground stations reached up at the two silvery ships. But all those rays seemed to flood harmlessly against a shining, shimmering coat of radiance. The ships were protected against those radio waves. So simple—too simple to overlook. They were protected against the heat rays that Atkill lashed at them.

Then one of them was touched, barely touched by the sword of radiance that had struck the first ship. As the beam struck it, the molecules of its metals were suddenly freed of every bond, and the ship became a thing of gas, tremendously compressed gas. It expanded. But it had been touched only, and but one small portion expanded.

Unfortunately, for the officers and crew, this small portion included the control that kept the release-flame within bounds. The men in the control room died instantly as the inconceivable blast of steel molecules struck them. That steel had been under a "pressure" of about one hundred thousand pounds per square inch due to its own molecules. With the release of the terrific pressure it expanded. The expansion destroyed everything in its path.

A man dragged himself along the corridor a moment later. His nose, his ears, his eyes even were bleeding. His face was contorted with pain, till Burt Hillen could scarcely be recognized. He stopped as he entered the power room. There was a fierce, unaccustomed heat beating out of its doorway. The man raised his eyes and looked. The white flame had become an angry violet color, and it pulsed slowly, but faster and faster, as he watched it. With each pulse the ship seemed to rise, then fall, rise and fall—the flame grew steadily, the pulsations came more swiftly, and the difference grew greater. The man turned and fled before the heat, but it seemed to pursue him.

### The Destruction of the Ships

SUDDENLY the ship lurched, then pressed downward. The man was struck by the overhead deck

as it descended on him, and he became a rust colored stain on the deck, a stain that was likely a queerly contorted man. In a moment he was gone though, for the ship had become a white-hot mass.

Atkill had known that ship was finished. He had turned to the other, pursuing him now, striking at him with rays that leaked through his screens, for their power was as great as his. He turned his beam on it, and a great strip disappeared from the side of the ship. Simultaneously the ship seemed to bulge, cracks appeared in its walls, and its course became erratic.

Then he became aware of the force that was pulling his ship, tugging it to one side, and upward.

"Atty!" called Joe Keller. He pointed up, and to one side. A great ball of white fire was rocketting down, down toward the city. As he watched a violet flame seemed to lick its way through the wall of white flame, and grow swiftly in size.

"Atty—if dat hit's the city, dere won't be nothin' lef' but a lotta puddles o' boilin' water!"

Atkill's face grew white. He could feel now, the pull of that white fire. It was growing, as the violet flame grew larger, and masked the great steel hull, white-hot now.

Atkill's hands worked rapidly at the controls, a plane of force formed under that thing that no matter could penetrate. The white-hot thing stopped, and suddenly, from behind him came a shriek from the power room, the shriek of the over-loaded white flame. Atkill's face went whiter as he saw what the thing on the dial before him was saying.

"Joe—I can't stop that!" There was violet flame crawling on the force-plane now, and with all the energy of his white release flame, Atkill strove to damp that force that ate through his shield. He maneuvered directly beneath it; the shields he had used he withdrew, so that more power might go to that plane of force and he began to push toward the open sea.

That ball of death above him was attracting the earth, dust was rising, water seemed flowing into the harbor, a tide that rose quickly, and crawled out over the streets, flooding them with a rapid, silvery tide.

Atkill's hands were steady, his face white under its tan. Keller fell silent. This man, Atkill, almost a god to him, could not handle that thing—he had best keep quiet.

The violet force was eating holes in that plane of force, and here and there a glob of white-hot steel fell through, to hurtle down, and fall into the harbor.

"Where ya goin'?" asked Keller at last.

"Out—to sea—where it can't—do any damage," muttered Atkill.

### The Defensive Plane of Force Is Succumbing

THE holes were widening now, growing larger. The ship and its terrible burden were moving swiftly now, the water whirling behind them, the restless sea was under them soon, but Atkill wanted the deep water beyond the Continental Shelf. He knew

that this thing would burn itself out in a month, but in that month the sea about it, and the rock below would be a boiling inferno.

Out—out—out—

"God! The power's droppin'!" Atkill's voice was shrill with excitement, horror perhaps.

The shrill whine from the outraged white flame back there was growing in pitch now. But as it grew higher and shriller, the flame itself dwindled, slowly, but then more and more rapidly—the holes in the shield grew—

Watchers on ships reported it. A terrific flash, a roar of thunder—and the great white ball of steel with the violet flame burning over it steadily seemed to swell, then drop at great speed down—down—and the sea rose up in a mighty flash of spouting steam.

There were few ships that lived to report it, and as Atkill had foreseen, it still boiled for a month. And the sea was redolent of dead fish for a thousand miles about.

But the crippled air ship Atkill had left behind as he carried off that deadly thing lay a smouldering, blistered wreck on Long Island. The Harrell tubes had at last gotten in their energy for the screen had been ruined by Atkill's ray.

It was over in three minutes. Even that last ship had fallen to Long Island inside of that third minute.

But in Washington the action had begun.

## CHAPTER XVIII

**T**HE fools, the blundering, doddering fools! They think we don't mean it—they think we can't. We *will*—we *will*!" Nestor almost shrieked in anger and mad rage.

Through the radio came the excited, terrified voice of "Sparks" Cohen, Burt Hillen's radio operator. "Atkill attacked, he blew up Jimmy's ship somehow—sort of a ray—he threw it clear out to sea with somethin'—I can't—Gawd—there goes Dan's ship now—way out—smashed on Sandy Hook—he's comin' after us—we're dodgin'—they're workin' beams down below now, and—" A terrific crackle of sound from the set announced the first explosion aboard Hillen's ship.

"Get Bell," snapped Fordham. A moment later Bell's radio operator was talking.

"Atty's beam hit us, and damn near blew us up—it's hot as hell—the ground stations frying with rays. The shields ain't workin' right anymore. Can you get me? The engine's gone blah—it's hot—Gawd! I'm fryin'!" The radio went dead.

"They're ruined our ships—four of our ships. They ruined our ship, and by Godfrey, we'll ruin their city!" Nestor was almost incoherent with rage and disappointment. "And Atkill may be coming here!"

A long beam of green light reached down, and struck the great Washington Monument. The towering finger of stone and metal seemed to puff, glowed green, and slump like melted butter, to run down the ground, down

the gentle slope to the streets. It was not hot, merely liquid, glowing faintly greenish, and gradually the glow died out, and the rock and metal became rock and metal again. But where they passed automobiles, roadside trees, men and women glowed green, slumped, and ran with the stream.

The beam moved, swept across toward Pennsylvania Avenue—and suddenly, it was chopped off in midair, half way to the ground. It simply ceased to exist at that height. It did not reflect and it did not glow. It just ceased to be.

Other beams had started now from the other ships, but like this first from Nestor's flagship, they stopped ineffectually half way. Some sparkled and arched with spitting flame, but none passed that barrier.

Then they looked up, and far, high in the sky was a shining ship, a sixth. It was as long as Nestor's, but thicker, more graceful. And its metal shone with a burnished blue tinge. It sank slowly toward the five ships, and the five beams that reached that impenetrable wall of force were suddenly gone. Twenty beams reached from each of the five ships, and played on the lone ship above. In an instant it was wrapped in blue flame.

"I think," said Warren grimly, "we got back just in time."

"I wish I knew what had happened to Atkill after that last ship went down over New York," replied Putney. "And I think we had better start active work. They may be able to get more power out of their generators. I'm glad you didn't patent that control-field. They haven't it, and have to work their generators at one-fiftieth the load—but they may have them ten times as big, remember."

Warren was silent. Outside a solid sheath of roaring, spitting, blue flame beat at a sheet of pure force, indestructible while their great generator maintained its power. There were some forces that could penetrate it, gravity for one, and a certain peculiar beam that Warren was working with. But no beam that Nestor's men had at their disposal could do it.

"I see that Atkill didn't help them after we left," remarked Warren without taking his eyes off the peculiar view-plate before him. "He'd have learned something perhaps. He's good."

In the viewplate appeared the interior of first one and then another of Nestor's little fleet. As though they had been made of the clearest glass, they appeared on the screen with their interiors perfectly exposed.

"Nestor, and the power-boys are in that slightly longer ship. Nestor hasn't been playing square by his boys, I suspect. The other ships all had gas-tanks, as you suggested, only they've been disconnected, as you didn't suggest. Nestor's on the other hand, has one oxygen tank that's full of something that looks suspiciously like tri-nitro-toluene. A bit old-fashioned, but exceedingly effective, I suspect. I should say there was about three hundred pounds of it. That should scatter that ship all over the district." Warren continued to



inspect the enemy ships at his leisure. Outside, a hell of fighting energies flamed and flared in the clear, sunlit sky.

"Well—are we ready?" asked Putney, as Warren straightened up.

"Uh-huh," replied Warren laconically. He settled himself in the pilot seat, and pulled a little control. The ship seemed motionless, while Washington shot back with an incredible acceleration, swung away, shot to one side, and snapped back.

### The *Prometheus* Attacks the Enemy

FIVE ships hung in the air, moving slowly toward the mote of the "*Prometheus*" that hung in the sunlight like some grain of shining dust, and shot about with velocities and accelerations that left the five ships helpless, that were to have subdued a nation.

Without warning, one of the five reversed its direction, and headed out toward open space with a speed and acceleration inconceivable. It seemed to flatten, its length vanished, it was a disc of wreckage resting on some clear plate. Then it contracted upon itself, and vanished, a white-hot point in the heavens. A second ship did not move from its position. But it contracted to a ball, five feet in diameter, and suddenly flamed violently blue. An instant later something wrenched all space, the blue flame disappeared, and with it, the mass of metal that had been a ship was gone.

Three ships remained, and struggled against the "*Prometheus*." Like some inconceivable giant planet bombarded with meteors, the "*Prometheus*" continued unimpeded. Methodically a third ship suddenly contracted as a sphere of pure force closed in on it, flamed blue as its release flame burst its bonds, and snapped into nothingness with a roll of thunder, as the extinguishing field reached it, and killed the atomic fires. And space seemed to be distorted each time, and the sun shifted sharply in the sky, and things seemed out of focus. The terrific space-fields bent the light away.

One ship was left, the longest. It had turned, and fled across the city, out across the sea. The "*Prometheus*" followed it effortlessly, as the men within struggled under the awful weight.

"That's—not—Atkill—" Nestor groaned. "I don't know—who it is—but I can—guess—and I don't—want to—believe it!" His face was deathly white, and he was crumpled in his chair under the same terrible weight, as the ship accelerated madly. It was headed toward the eternal night and eternal glare of space, now.

"That's Warren. I thought he was dead," said Fordham. He was younger, and stronger, the acceleration affected him less.

"So—did I. I wish—he was."

The acceleration of the ship dropped slowly. Men came running from the power room, their eyes covered, crying out in terror. The eternal, inextinguishable flame was dying. It simply contracted, turned a

dull grey-white, then to red. The acceleration dropped. Presently there was none, and the ship began to fall to earth. The flame had died, the ship was without power.

"He stopped us," Nestor said it with a baffled wonderment. "He shouldn't stop us. Nothing will put out the Flame. Atkill said that."

"Yes," Fordham said heavily, "but the only trouble is, that Warren is the man who invented that thing, and he's got it trained, it seems." The men were suddenly aware that an acceleration had returned, a weight. "He's at least keeping us from falling. It's about two hundred miles down, and we would have landed rather heavily."

"Why is he taking us, why didn't he just wreck the ship?" whimpered Ringman. His nerve was gone. This morning he had started out, one of the five Rulers of Earth. It wasn't eleven yet. He was on his way back now, a captive, helpless.

There were milling, calling men back in the ship. They were frightened now, afraid of that ship that could kill the flame that destroyed anything, against which its awful powers were helpless.

"I suspect he's taking us back to turn over to the government," Fordham smiled bitterly. "It was a great plan, Nestor. Only you can't seem to kill that man Warren."

### CHAPTER XIX

THE "*Prometheus*" settled beside the steel hull of the lifeless ship. A mass of infantry advanced rapidly across the great airport, two staff cars raced ahead of them.

"Nestor—Nestor—Nestor—Come out of the ship, without weapons. Send your men out one at a time." The radio was useless, as Warren decided after several tries. No doubt the power for it had gone with the extinguishing of the flame.

A beam reached out from the "*Prometheus*." It sliced rapidly down across the tail of the lifeless ship. A section ten feet long fell to the ground as a line-thin strip of incandescent metal appeared under the beam. The staff cars were parked some fifty feet ahead of the "*Prometheus*," a cordon of infantry had established itself about the two great ships.

Warren stepped out of the "*Prometheus*," stamped the short-cropped turf joyfully, and looked up at the tall, imposing officer who bore down on him. Warren grinned happily at him.

"Well—General Walters. I'm pleased to meet you, immensely so. This is the second time. The last time you urged me not to waste your valuable time, I believe. In connection with the release of certain interspatial energies, wasn't it?"

"Forgive me, man. I was stupidly wrong. Almost criminally wrong. Had it not been for you, whom everyone thought dead, everyone in this city would have been dead. We heard their orders on our radio sets."

A grey-headed, stooped old man, with tired, lusterless eyes stepped from the steel ship. Three other men followed him immediately, one so broken in nerve and body that another had to almost carry him.

"Thaddeus Nestor, I arrest you for High Treason against your country." General Walters' voice was vibrant with a fury he could scarcely contain. Nestor looked up with his tired, lusterless eyes, and nodded.

\* \* \* \*

WARREN sat back comfortably in the great lounging chair in his New York apartment.

"Put, they seem to feel they owe the whole rescue to us." He chuckled slightly. "But I think they ought to say they owe the whole trouble to us. We invented the thing.

"Besides, Atkill saved New York before we even

got here. We were still on the outskirts of the atmosphere when he started."

"And now, Atkill is a hero—but a dead one. Cremated with Hillen, but he saved New York. The rays from that thing would have burned every human within a hundred miles, and so badly they probably wouldn't have recovered." Putney rose, and looked out over the city. Far to the east, barely visible over the horizon was the great, glowing cloud of steam, shooting up to the heavens, glowing weirdly in the intense violet light.

"Too bad we couldn't extinguish that," he said ruminatingly.

"I'd be afraid to. Might throw the whole earth into that other space to extinguish anything that big.

"But Putt, is Atkill cremated in that?"

"Were we blown up? It's impossible to tell from this space." Warren looked at his friend with questioning eyes.

THE END

## REVELATION

By V. R. Eberhart

Enrapt, I gaze, where space lies heaped on space—  
Into the ice-hung silence of the Void,  
Where myriad stars and worlds glow brilliantly  
Against the deep, black velvet of the heaven.  
All thought lies hushed, before that rich display,  
Still sparkling with the lustre first approved  
By the great Lapidary.

And how He flung them out, in ages past!  
With careless, generous hand, He scattered them,  
Till all of space was filled with shining worlds.  
Their dazzling coruscations gleamed and glittered,  
And flashed a brightness 'tween the walls of night,  
And to His beauty-loving eye, through aeons since,  
Have given delight.

Then sudden—brief—more swift than thought—  
A flash across the dark—a world is gone!  
Dropped softly from its place with silent speed,  
Vanishing all—deep-swallowed in the maw  
Of realms illimitable. And, I stand,  
Finite before the Infinite, and in that flash  
Of little Time, I read—Eternity.

# Ancients of Easter Island

By F. Stanley Renshaw

*THERE is no greater mystery in archæology than the statues on Easter Island in the Pacific Ocean. There is no pretense of establishing a real theory—at least, any theory ever advanced tells us nearly nothing, but they are here the basis for an excellent fantasy, and our author has made great use of it.*

Illustrated by MOREY

**I**T was almost a year from the time the "Palo Alto" left the harbor at San Diego that we came to anchor for the second time amidst the vast bustle of ships of every flag in the port of Valparaiso.

We had cruised the whole length of South America and clear around the Horn to the Falkland Islands, then back again to the great seaport of Chile. We had secured specimens of the flora and fauna from the many islands, as well as from the mainland, and John Bowles, our geologist, had a good many hundred pounds of mineral-bearing rock, samples of earth and a whole raft of pictures, sketches and other proof that, under his brilliant analytic mind, would refute the evidence Garry and I were gathering.

I refer to Garry Edward, the well-known biologist, anthropologist and exponent of the Darwin theory of evolution. I believe he knows more of what Darwin actually tried to convey through his books, than did that famous scientist himself. In addition to the sciences mentioned, he was a botanist of great ability. If he had confined himself to any one of the kindred sciences, he might easily have become the foremost world authority, but as it is, he has gained a certain renown in all.

I am Harvey Manly, the archaeologist. I majored in ethnography and philology, that I might more intelligently follow my chosen profession. The unearthing of prehistoric relics in the tracing of the races of mankind is an obsession with me, and I would rather spend an evening with a hieroglyph-covered stone tablet than with a current copy of the best seller.

John, Garry and I were pals of long standing. We had all been of the class of '24, and entitled to a string of letters after our names. However, we were too modest to make use of them, except when we sent in our contributions to various scientific publications.

Captain James Archer of the United States Navy had been loaned to us as navigation officer on account

of his ability as a hydrographer, and we carried a crew of ten men, including a negro cook by the name of Sam. I never knew if he boasted a last name, but that is unimportant.

Being sons of comparatively wealthy parents, we had not been under the necessity of seeking positions in the University Faculties, but, soon after our graduation, had bought and equipped the "Palo Alto" with the most modern scientific equipment. We had sailed the seven seas, had our measure of adventure and, I hope, contributed something to the sciences we represented.

**A**USTRALIA and the Pacific Islands are thought by many men of science to have once been the mountain tops of the submerged continent of Lemuria. This supposition has not received the publicity of the fabled Atlantis, but nevertheless, there are many proofs to support such an idea. It was with the idea of proving or disproving this theory that led to our being in the South Pacific. We had sought and received from the government of Chile, the right to land and explore the prehistoric Easter Island, with its innumerable stone statues and its wealth of mystery and romance.

We left Valparaiso one bright morning and a day later, we made a brief stop at Juan Fernandez, where the Scotsman, Alexander Selkirk was marooned by an English privateer. His experiences were later used by Defoe in his celebrated story of Robinson Crusoe. Just fifteen years before in this very harbor, the German warship "Dresden" had been found and destroyed by the English "Glasgow." Naturally we were interested in the place, but its history was too modern to attract us for any length of time.

But this is not a travel story, nor one of pure science. It is one of a strange phenomenon witnessed by all on board the "Palo Alto," but so weirdly impossible that, for fear of jeopardizing our scientific careers, we have





*Still holding my hand, she led me down the sloping side of the mountain. On the cliff side, great platforms of stone were almost continuous, and mounted on each were enormous statues, ranging from six to thirty feet in height.*



refrained from giving the report to the world. It is that reason that prompts me to write this account as fiction, with true names, of course, concealed. Our future actions will be governed by the reaction of the public when this account is published.

After giving the rocks of Sala-y-Gomez a wide berth, we finally dropped anchor in Cook's Bay. We had known what to expect, yet I think we were all a little disappointed. This was no lotus-eating South Sea Island, but a bleak and dreary panorama of an inhospitable, volcanic land. No trees or even brush were visible, and we found it hard to believe that twenty thousand head of sheep and half that number of cattle found pasturage there, the property of an English Corporation, who had the Island under lease from the Government of Chile.

### Arrival at Cook's Bay

IT was late when we arrived in the bay, so we decided not to go ashore until the following morning. However, our arrival had been noted and soon half a dozen boat-loads of natives garbed in nondescript European clothing and with native straw hats somewhat resembling the appearance of the high hat of civilization, came out to meet us. We tossed them a few presents and lowered a ladder for the Akari, or chief, to come aboard. He was a fine old Kanaka, tall and straight, but apparently in common with all Polynesians, addicted to the vice of avoiding the truth, even when it might better have served the purpose. However, we were familiar with the idiosyncrasies of the natives of the South Seas and knew how to deal with them.

The old fellow spoke very fair English and greeted us with the pleasant manner common to most Kanakas. He accepted our presents with unconcealed pleasure and particularly the drink of bourbon John tendered him. He drank it slowly as though to get the full enjoyment from each drop and almost immediately, he grew friendly as a long-lost brother. The result was that he pressed upon us an invitation to visit the village immediately and witness the rites of the manu-tara. We had familiarized ourselves with the traditions concerning the Island, but we were under the impression that the Bird Rites had long since been abandoned. However, the Akari assured us that such was not the case, but so sacred was the ceremony that no white man had ever witnessed it. He told us that our kindness had earned us the right, and muttered something about a prophecy to be fulfilled. But we attributed the invitation to the bourbon. Nevertheless, we realized it was an opportunity not to be overlooked, so we hastily accepted his bid.

The moon was sending down a soft radiance when we landed on the narrow strip of sandy beach. All the natives had disappeared except the old chief and he immediately signed to us, and we followed him Indian style along the dim and ancient 'Road of Ao,' that led around the steep sides of the extinct Rano Kao crater to the village of Orongo. Captain Archer, Garry, John and I went in that order, and Sam, the

negro cook brought up the rear. It seemed perfectly natural for Sam to come along. Ever since I had rescued him several years ago from a rather embarrassing situation in a Chinese port, he had been my shadow. If the Akari noted his presence, he gave no sign.

We heard the singing long before we came into sight of the village. However, the extremely narrow ledge on which we were walking required all our concentration. On one side of us yawned the crater lake and on the other, straight down a thousand feet, the sea dashed in angry waves. Out on the moonlit waters we could see three tiny black dots that we recognized as the islands of Motu Nui, Motu Iti and Motu Kao-kao. On them for countless centuries have nested the seabirds, around which much of the island history rests.

### The Village and Its Marvelous Outlook

THEN we saw the village. Fifty or more stone houses in double rows, all facing the sea. The whole position was marvelous, surpassing the wildest scenes depicted in fiction and romance. Immediately at hand were those strange relics of a dark and mysterious past; on one side far beneath lay the silent waters of the crater lake, and on the other, the turbulent Pacific Ocean. We could see it breaking over the tiny islands with a white belt of foam, dashing against the sheer walls of the cliff and receding in the limitless distance until it merged with the cold ice-fields of the Antarctic. The all-pervading silence was broken only by the faint song of the sea so far below, the eerie calls of a few sea-birds circling over their lonely habitation, and the weird human beings chanting what we knew to be a prehistoric incantation.

We approached from the western side, but the Akari gave the first few houses a wide berth.

"Rongo-rongo men live there," he grunted. "Taboo now."

The rongo-rongos, it might be explained, are those to whom the art of inscribing the stone and wood tablets are intrusted. That bit of learning set them apart in a caste all their own.

We were led into a large house in the middle of the first row facing the sea. The door was just wide enough to admit one man at a time, and the single room, while about fifty by ten feet, was only five feet in height. We could not stand erect and consequently, were glad to avail ourselves of the rounded sea boulders provided as seats. A ship's lantern gave a modern touch and cast grotesque shadows on the stone walls, and brought into relief the innumerable paintings depicting a man with a bird's head. We had noticed this same design cut into the living rock of the cliff outside and also had seen broken fragments of what had once been statues, apparently of some remote age.

We knew the traditions surrounding the bird-cult. That those who were to participate came to the huts a month before the birds were due to arrive and spent the time in feasting and dancing. Before the coming of the missionaries, the feasts as one might guess,

were cannibalistic. Therefore, it was with an eerie feeling that we followed the old Akari down a steep path that led to the opening of a large cave. Ana Kaitangata, the natives called it, which translated means, "Eat Man Cave." Not the most pleasant place to be in, and especially when in the company of half-civilized savages, whose immediate ancestors had eaten their human victims in that very spot. I know for my part, I was a little apprehensive, and I saw Captain Archer stealthily loosening his service automatic in its holster. Sam, however, was probably the most affected and rolled his eyes wildly.

The whole population of the village came after us and ranged themselves along the walls. The Akari motioned us to seats around a great smooth stone that probably was the table on which the grewsome feasts were spread. Then he began to address the assemblage, but in a language that I could not follow. However, I did catch the words "tangata," which I knew to be bird-man and "ivi-atua," meaning a person supernaturally gifted.

THE Akari ceased talking and the whole group tensed as though expecting something to happen. I think we all felt the tension and I could hear Sam's teeth chattering. Then a voice began to speak from a dark recess in the wall where the faint light did not penetrate.

It was a pleasant voice, entirely unlike the harsh tones of the Kanakas. It was rich, full-throated and vibrant. I do not know if I tried harder to understand the meaning of the words or catch a glimpse of the speaker.

Suddenly the old Akari began to translate. Evidently the words now concerned us.

"The ivi-atua, divinely gifted with prophecy has foreseen your coming," he began. "Hawa-tuu-také-také, Chief of the Eggs, speaks through her. It is not given to us to win the egg this time, but to one that comes from over the sea. Such a one has arrived and preparations must be made at once; for before the sun rises the birds will be here."

The hidden voice became silent, but still the Akari talked. And now he was explaining what must be done. Apparently he took it for granted that no one could resist such a signal honor.

"The hopu are already in the cave of Motu Nui awaiting the birds and you must send your servant at once. A bundle of food will be prepared and placed on a raft of reeds to push ahead of him as he swims to the island. Then he will hide in the cave with the others, and when the birds come, he will be the first to find the egg."

"What kind of a game is this?" Garry demanded. "If it is such an important honor, why doesn't the man selected by your divine prophetic go himself?"

"But it is not that way," the Akari protested. "The Ao, the Chosen Ones, may not go, but must send their servants, or those hired to act for them. For hundreds of years, it has been that way and we must

obey the commands of the great Hawa-tuu-také-také."

"Anyway it's a rum idea and unlike any other competition I have ever heard of," Garry grumbled.

### The Search for the Egg

"NOW will you have your servant make ready?" the Akari asked. And he looked at me and I involuntarily glanced at Sam. This was something he could not understand. He was a strong swimmer, as much at home in the water as on land and the few hundred yards that separated Motu Nui from the mainland would mean nothing to him.

"I'll gwine after dat egg if you wants me to, boss," he grinned.

"Are there any sharks down there?" I asked the Akari.

"Only once has a fish taken a man," he replied. "Then it was foretold, but for many years, none have bothered."

We had told Sam a good many yarns about the island and I think he pictured it as swarming with ghosts. Perhaps the fear of sharks was not as strong as that of spirits, and anyway this promised competitive action. I knew it was a foolish thing to do, this mixing up in a prehistoric cult, but it promised to be interesting, and I felt confidence in Sam's ability.

The Akari instructed Sam in what he must do, then gave him a little bundle of food tied on the reed raft. On top of the bundle was a small basket with straps that could be tied around the head. In that basket, the egg must be brought back, and when it was once fastened to the swimmers head, he would be able to swim quickly, as the gods were with him. We accompanied Sam part way down the cliff until we came to another cave called "Haka-rongo-manu," or "Listening for the Birds." Here a group of men were stationed as watchers and they would give the word as soon as the birds arrived. There we were forced to bid Sam good luck, but I must confess that I watched with some misgivings until some time later, I heard his triumphant shout announcing his safe arrival on the island.

We had scarcely reached the cave of Ana Kaitangata again before a shout came from the cave below and suddenly we were aware of a great noise out at sea. It was as though a confused murmur of a vast host advancing, but soon I was able to distinguish the call of the sooty tern. The migration was on and soon Motu Nui would be teeming with life.

"Manu-tari," the natives cried, and their dancing took on a frenzy of savage abandonment.

I confess that I felt some of their excitement and a strange desire to join them. Garry, John and Captain Archer afterwards admitted to the same feeling, but the effect of ages of civilization held us fettered.

### Arrival of the Great Flock of Birds

THE birds came on swiftly and in the bright moonlight we could see them like a huge, dark cloud. Their cries filled the air with a clamor hard to con-



ceive of, and the rush of their wings could only be compared with the ominous roar of a cyclone. Straight for Motu Nui, they came, nor did they circle before they came to rest. That bit of barren rock had been their nesting ground for countless years, and once more they had come home to nest and carry on the cycle of life.

They had scarcely all settled, when they arose again with a great flapping of wings and hoarse cries of surprise and fear. Then we could see human figures running over the island and a moment later came a cry from Sam. "I've got it, boss man, I've coming."

Almost with the echo of Sam's exultant cry, the other hopu entered the water and started swimming for the mainland. However, Sam followed the instructions given him by the Akari. First he dipped the egg in the water of the ocean, then he placed it in the basket and bound it on his head. With a final wave toward where we stood on the cliff, he dived into the water. It was rougher now and harder going. At first he appeared to be having trouble, but a moment later appeared to pick up speed until he fairly flew through the water. Never had I seen a man swim so swiftly and I was almost inclined to believe the old Akari when he whispered, "The gods aid him."

I met Sam half way down the cliff and took the egg from his hand. A rongo-rongo immediately tied a fragment of red tapa and a piece of the tree called "Ngau-ngau," around the arm that had taken it. This appeared to be the only honor he would receive, and according to the native custom, he would now take up life much as usual except that he must not take food for a year with the arm that had taken the egg. His family were also isolated for a period of time.

I saw my friends all grinning with delight and heard Garry mutter to John, "Harvey will be up in the air, now that he's a bird-man," and they laughed with what I considered poor taste, especially as the natives appeared to take the ceremony so seriously.

We came back up the cliff to Orongo and then we saw the huge fire lighted on the landward slope of Rano Kao. The Akari assured us the fire could be seen all over the island and was the age old custom of announcing the finding of the egg. This was a pathetic thing, as we knew the total number of inhabitants were less than two hundred, and the ones not actually with us were dancing in the village of Mataveri, only a few miles away.

We came to the fire around which the Kanakas had seated themselves. I was pushed forward to the place of honor in the center of the circle and the Akari seated himself on my right. The rest of the party found positions that suited their fancy. We were curious what further rites we would witness, especially as the Akari had pointed out that it would be impossible for me to conform to the ordinary customs of a new bird-man. I believe the proper thing to do was to shave the head and paint it red. Then go to a specially prepared hut and remain in seclusion for the next five months, spending the time in sleeping, and

refraining from washing one's self. Of course I had no idea of becoming a bird-man in that sense, but the Akari had said that I might follow an even more ancient custom. A custom that tradition had forgotten, but an attempt would be made to recall it.

All my scientific instincts were aroused. The whole thing was too fantastically impossible. Even ancient men did not inaugurate such a custom without a reasonable excuse. And behind the bird-cult, there was no religious background. It was all wrong and I felt the practice had so far degenerated that the original intentions had been forgotten.

Suddenly a figure appeared before us. It might have come from the shadows behind the fire, but I thought it materialized directly from the flames. The natives greeted it with a sudden intaking of breath betraying their excitement. I think we Americans were equally surprised. We had seen many strange things in India; things of magic that defied the eyes and made mock of one's common sense. I caught a glimpse of Sam and I believe he would have bolted the place, had not I ordered him to cease being a fool and sit down.

The figure was apparently human and wearing a grotesque mask of such hideous design as to appear real. It was a tall, slender figure of a woman, wearing burnished metal plates on the breasts and a short skirt of some red cloth.

#### An Easter Island Head and Features

**H**OWEVER it was the face that caught and held our attention. The eyes were so skillfully painted as to look immense, and they shone with a weirdly unreal light. But it was the ears that interested us. Long and pendulous and so distorted, they had lost all semblance to that human organ. They hung down even with the base of the chin and were thick and round as a banana. Of course we knew the traditions surrounding the long-eared people, and that most of the great statues that dotted the island were fashioned in that pattern, evidently the handiwork of that prehistoric race.

The ivi-atua began to chant in a totally different tongue from that common to the Kanakas, and when I whispered to the Akari for a translation, he shook his head in perplexity. However I did recognize the voice as the one we had heard in the cave.

The chanting began in a low tone and grew and grew in volume until it echoed from the center of Rano Kao. The figure danced to her own chanting, first with a slow sinuous grace that was poetry of motion, and gradually accentuated until with wild abandonment, she leaped and flung her arms until a dozen fire-nymphs appeared to flash in and out of the leaping flames. Without the mask, it would evidently have been an inspiring thing of beauty and romance, but it was too horribly real, too potent with age. They must have danced just that way when the Pleistocene waned and the Cro-Magnons came to inhabit Europe, or the mound-builders raised their huge burial places on the continent of North America.

Abruptly the figure ceased the dancing and chanting. I saw the great eyes staring at me and then a slim hand motioned. The spirit of the thing had gotten into my blood and I leaped to my feet. She took my hand and led me as near the fire as the heat would permit, then she faced the circle and made a sign that lowered every head to the dust. I noticed that even my friends had bowed theirs, but not as low as the Kanakas. Back towards the leaping flames she turned and cast a handful of something that glinted like powdered metal. I can liken the result only to the mounting flames of a volcano. So bright was the flash that I could see the "Palo Alto" in every detail, far out in the harbor of Cook's Bay. But it was only a flash, the flames leaping straight out in the void and disappearing in a long red streak like the trail of a comet. Not even an ember of the fire remained, and so weak was the bright moonlight in comparison, that for several minutes we were blinded.

I shall never forget the scene that unfolded as my sight grew normal again. The tropical moonlight appeared to grow brighter and every detail of the island stood out. But in some way, it had changed. We seemed to be standing on a broad plateau, an elevated bit of tableland with perpendicular walls thousands of feet high. Below us stretched the shadowy outlines of a vast continent. Lemuria, I thought, and glanced at John Bowles, but he was standing like a man stricken with fear of some giant cataclysm of nature.

"COME Hawa-tuu-také-také," the figure whispered. "I am Vie Hoa, and together we must go to Rano Raraku."

She had addressed me as the 'God of the Eggs' and had called herself one of the other four legendary gods.

Still holding my hand, she led me down the sloping side of the mountain and I saw we were following a broad, smooth road of white stone that vanished in the distance along the edge of the cliff. On the cliff side, great platforms of stone were almost continuous, and mounted on each were enormous statues, ranging from six to thirty feet in height. Some of the platforms were formed of a single stone that must have weighed thirty or forty tons and I marveled greatly that ancient man could have performed such feats of engineering skill as would tax the ingenuity of modern scientists.

### The Easter Island Statues and Visions of the Past

I KNEW these platforms as "Ahu," or "Places of the Dead," and I realized the plateau must be the graveyard of some mighty race from the great continent below. In fact we saw corpses resting on many of the ahu and I felt a regret that their method of disposing of the dead was such that little would be left for posterity to puzzle over. The bodies were swathed tightly in layers of cloth, not unlike the mummies of Egypt, then they were placed on single trays held upright by sticks of wood placed in holes bored in the rock. Here the bodies remained until they had wasted

away to a mass of whitening bones which were later cast into the sea.

I looked with awe at the huge round hats carved from a single block of red stone and balanced on the heads of the statues. Surely it took a mighty race of men to perform such miracles of strength and skill. But the still figures of death in their lonely trays were also food for wonderment. Twice the size of an ordinary man, but I reasoned it must be their wrappings that gave them such tremendous bulk.

I forgot to marvel at the smooth road that should have been only an indistinct path and at the statues and ahus standing in perfect preservation, when a thousand years ago, they were crumbling into fragments. And of the soft hand in mine and a voice telling me many wonderful things in a strange tongue, yet of which I understood every word.

It might have been midnight in some great cemetery of the civilized world. We had entered on the last stretch that led to Rano Raraku and now on either side, the statues reared their heads like giants or titans of old. Then I became conscious of sound and raised my eyes to the quarries on the side of Rano Raraku. There was activity here, human intelligence at work. The sound of the stone tools and mallets wielded by mighty arms, chipping the statues from the living stone smote upon our ears. And then we saw a stranger thing. A group of giants bringing a fifty ton completed statue down the side of the mountain. A broad ramp had been constructed and on round skids of wood, men were drawing the colossal piece of masonry, base first. Other statues were in all stages of completion, while still others lay scattered around the base of the mountain as though they had been abandoned by the moving-crews until another day dawned.

We came quite close to the workers, but they took no notice of us. It may be that they were unconscious of our presence. They were unlike any race of men that anthropology knew, twelve feet tall, with huge round eyes and enormous, pendulous ears. Mighty muscles rippled under their dark skin, but their large hands handled the stone tools with the deft touch of a master sculptor.

### The Easter Island Funeral of Past Ages

WE finally turned away from the quarries to meet a procession coming up over the edge of the cliff. It was a funeral, and the corpse, in its bright wrapping, proclaimed it that of a king. A hundred men and women of smaller stature and normal ears either carried the body or followed behind. They were slaves bearing their master to his last resting place, and there they must abide with him without food or drink until the moon waned.

They too took no notice of us, so we fell in with the mourners and accompanied them to a new and imposing ahu set on a jutting promontory that stuck out over the cliff. The tray awaited and it was a simple matter to place the body of the dead king in its place,

then the slaves began their wailing and abased themselves in the dirt.

The wailing reached a high crescendo and suddenly broke. The earth trembled under our feet and we had a sensation of falling. The shadowy outline of Lemuria faded and the sea took its place, and the island regained its normal appearance with the ahu close to the water's edge.

"We must get back to Orongo," Vie Hoa cried and her grip tightened on my hand.

Together, we ran back over the white road, but it was no longer smooth, the cataclysm having buckled it in many places. Many of the statues along the way had also been thrown down and broken in a curious way, for the heads had nearly all been snapped off and had toppled over backwards.

We reached the site where Orongo should be, but caves and not stone houses greeted us. The houses would not appear until many years later. And following us came not only the slaves who had borne their dead king to the ahu, but the long-eared sculptors as well.

I had forgotten my friends by this time, even my name, and I seemed to remember that I was a prince of Lemuria marooned with certain of my subject people. No longer did I look with horror at the long ears of the giants or the repulsive faces of the slaves. I lifted the mask from Vie Hoa's head and saw a lovely brown maiden and recognized her as the high-priestess of the Temple of Lemuria.

It seemed that we spent days on the island without food, but water we found in the craters of Rano Kao and Rano Raraku. However, we could not live forever on water alone and there was no source of food supply on the island, after we had consumed the meagre supply brought up from below by the sculptors.

**M**EN grew thin until their ribs showed plainly through the skin, women were dying and our situation became desperate. Every day, we missed a man or woman, but at first I thought they were throwing themselves into the sea. Then one day I entered a large cave and found the bones of many people, of the giants and slaves alike. They had become cannibals which meant the end was near.

The manu-tara came when our numbers had been reduced by half. In a flock of thousands, they settled on the little island of Motu Nui, only two hundred yards from the mainland, but they might as well have been two thousand. The slaves and long-ears had never seen the ocean before and had not learned to swim in the lakes and rivers of Temuria. Food in sight and almost in reach, yet we were starving and eating each other. I alone had seen the great bodies of salt-water when I had gone with my father's armies to battle those that dwelt in great stone temples in the jungles of another continent far to the east. I knew how to swim, but it was not seemingly for a prince to bring food to his slaves. However, I must either provide substance or perish with them.

### Gathering Eggs to Save Lives of the Starving

**I**N my weakened condition, it was a great feat to make my way through the turbulent waters, but after much difficulty, I crawled out on the rocky ledge of the island and greedily drank the contents of egg after egg. This gave me renewed strength and enabled me to carry a number of eggs back to the mainland. I had over-estimated my strength and was almost spent, but Vie Hoa rushed into the water and drew me to safety. The succulent eggs brought new life to those left on the island and gave them strength to build a rude boat under my direction. After that we had food in abundance, both of eggs and young birds, and fish taken from the sea.

The long-ears hewed statues of me and the slaves made likeness carved from wood. I became a god, the saviour of lives and the giver of food. It was me they worshipped, but with the dying out of the long-ears and the less intelligent slaves spreading over the island in warring clans, my name became lost except in vague traditions, but what I had done decended in the symbol of the bird-cult. Those of later generations did not know why they carried on the custom, nor did they reverence the statues, but made crude imitations of their own. Thus an inferior race sprang up and lived and died, caring little for the great ones who had preceeded them.

\* \* \* \* \*

I came to with a start and found myself still seated in the center of the circle facing the fire. I wondered if I could have fallen asleep and I know my face betrayed my bewilderment, but the faces of my friends and natives alike, mirrored my emotions. The ivi-atui had disappeared and I would have questioned the Akari where she had gone. For many moons in that far distant age, she had been my wife and my palm still glowed with the warmth of her small hand.

I found her in the hut of the Akari, his grandchild, she told me. And I recognized the same soft voice. However, she knew no more than I did of the nights' happenings. The old Akari had bid her dance and what had come later, she had done without her own violation.

Garry, John, Captain Archer and Sam had remained seated in the circle, unable to move. They said I had really gone down the white road with Vie Hoa, I prefer to think of her by that name, although her real name is Angata. They had seen us return with the long-ears and slaves, and they had seen the shadowy outline of Lemuria. In fact, they had seen many things which I did not, but could offer no reasonable explanation other than that we were the victims of group hypnotism and suggestion. However, that would hardly account for the crew aboard the "Palo Alto" reporting that a shadowy land appeared to engulf them and shut off their view of the island. Frankly, they stated they would have hoisted anchor and stood out to sea, if it had been possible, but some invisible force held them as though the sea had turned to sand.



WE spent the few remaining hours of the night aboard the yacht and when we would have gone ashore in the morning, Vie Hoa, or rather Angata came out in a small boat to warn us of trouble on the island. It seemed that during the night, many thousand head of sheep had become frightened and thrown themselves over a cliff and into the sea. The herds of cattle had also stampeded and many had been destroyed. The English overseer evidently blamed us, thinking we must have landed through the night and explored the island without his permission.

We did not feel like becoming involved in such a dispute and had no intention of paying for such a large amount of mutton and beef when we had not enjoyed even one chop or steak. The result was that we hoisted anchor and sailed for Tahiti, satisfied that after all, there was nothing left on Easter Island for us to learn.

### The Geological Age of Easter Island

But after all we had seen, John Bowles still persists that the continent of Lemuria never existed. He points out that Easter Island is geologically young. The mountains still retain their round form, not pitted and worn by erosion as are those on Juan Fernandez, To him, every indication points to a comparatively recent land, as geological time is reckoned, and he will not listen when we point out that it may have been thrown up by the extinct volcanos before Lemuria finally sank beneath the waves.

### End of the Vision of Ancient Days

GARRY EDWARDS is equally positive that once all the Pacific Islands were actually the mountain tops of a continent. He has brought to light marine matter and mollusks common to all the islands as well as to the mainland of South America and Australia.

"He's crazy if he thinks I am going to admit the existence of a strip of land many thousands of miles long for his snails to crawl over," John will growl. "Admitting they are common to all the islands, there are many logical means whereby they could have been so scattered."

Thus the argument goes on, but I have hesitated to commit myself either way. Mankind is much the same the world over, and many customs are common in widely separated lands. Anthropology and archaeology are indeed engrossing sciences.

We found Angata a stowaway when we had been a few hours at sea. It was not too late to return her to the island, but she begged so hard to go along, and after all, I must admit I had been reluctant to part with her. The other members of the expedition still believe that I smuggled her aboard, but such is human nature. We now have a bungalow in Honolulu and Angata and I are very happy.

"On the voyage to Tahiti, I asked Sam how he happened to make such speed returning with the egg.

"Boss man," he grinned. "There was a twelve foot shark after me."

THE END



## An Episode of the Mechanical Age

Some years before his death Mr. Edison told the writer the story of an incident in the early history of the electric light manufacture, when he had to encounter resistance from a small group of workmen who did a particular bit of work on the bulbs. The foreman of the group had a son and naturally wanted his offspring to get a place in business. Accordingly he was engaged in the office. He developed an exaggerated sense of his importance and was discharged. Then the trouble started. The foreman declared that the whole group of men would walk out if the boy was not reinstated. Consequently he was given a new trial, but was no better than before. After a new discharge, a new threat and a new trial the condition became intolerable and the superintendent begged Mr. Edison to do something to help out.

Accordingly Mr. Edison started to make a machine to do the work. When the machine was completed he had it tried out first by an operative of some ability and it did the work. Then he had it tried by a man of no particular ability, changing it as needed to make it a certainty. Last of all the inventor tried it himself, and it was perfect. A number of the machines were made and were taken into the factory, and this was done secretly by night. And now when all was ready the operators were informed that their services were no longer required, and undoubtedly were greatly surprised at the turn things had taken. And they all lost their jobs; the recalcitrant office boy, who was the cause of the trouble, going off along with his father.

—Leon Ascot.

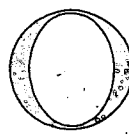
# The Memory Stream

by Warren E. Sanders

Author of "Sheridan Becomes Ambassador," "The Sterile World"

*THIS is a very charming story, picturing the life of the cave-man of pre-historic ages. It gives a very fine description of the savage life of that Neanderthal epoch and of contests of the savage mankind of distant ages. We are sure it will be appreciated by our readers, as it has been appreciated by us.*

Illustrated by MOREY

 ONLY the faint humming of a dynamotor broke the stillness. A hooded pilot light on a switch panel cast vague shadows into far corners of the laboratory. And on a well-ordered work bench a huge, softly-glowing tube painted ever changing tints upon the placid features of the man and woman stretched out on reclining chairs before the bench.

Obviously they were sleeping, these two. But as obviously, it was not a natural sleep. Their faces were slightly pale and their bodies were still, with the rigid stillness found only in various forms of hypnotism. And each wore a strange, metal-studded headband from which a thin cable led to the switch panel behind them.

The minute hand of a chronometer crept around the dial toward a red marker. And as it crossed the marker, relays began to click and a massive switch closed suddenly with a dazzling arc. The dynamotor labored and groaned under a heavy load and the pilot-light dulled to a red point.

But the huge tube on the bench burst into a wild riot of shifting colors; flickered for an instant upon a peak of blinding brilliance—and then went out.

It lasted for only the smallest fraction of time. But during this brief interval the two sleepers were carried back along the stream of human memories into the dim dawn of intelligences; backward in time some seventy thousand years—as shown by the indicator on the panel. And during that brief interval they lived again . . . suffered again . . . loved again. . . .

**C**ROUCHED in the cave entrance, Kor gazed at the huge, green-tinted moon with a melancholy eye. From the gloomy depths behind him the heavy, stertorous snores of Milj, his father, sounded loudly above the breathing of Nolain, his mother. Nolain had not eaten so heavily of yesterday's kill, and her sleep was more peaceful.

Kor rubbed his own aching belly and vowed that never again would he devour, at one time, quite so great a quantity of meat. Burning thirst consumed him, and he slid from his perch and ambled slowly, silently as a stalking beast of the jungle in which he lived, down

the gentle hillside and up the brook to a bubbling spring, which circumstance doubtless saved his life.

For Henga, who dwelt in a cave across the valley, had seen and coveted Nolain. The fact, that he already possessed two women, did not trouble Henga in the least. Prosperity alone governed the number of women a man might keep in his cave—prosperity and the man's ability to get the women. And Henga, chief of the tribe by right of might, desired Nolain.

Indeed, Kor's mother was fair to look upon. She was strong and fleet of foot. Her piercing black eyes were sharp for lurking danger, both in the cave and on the hunting trail. She was slender and shapely—something quite unusual in a Neanderthal woman of her age. And while most women of the tribe were content with their natural covering, Nolain affected a short leopard-skin girdle. Which only interested Henga all the more.

True, Henga might have taken her from Milj in fair fight. But Milj was a mighty hunter and Henga was wary of risking both his neck and his position. So he determined to take by stealth, that which he dared not try to take by force. And Kor, sturdy stripling of twelve winters, had barely quitted his perch at the cave-mouth, when Henga's burly shadow blocked the moonlight from Milj's cave. . . .

Kor, drinking at the spring, was frozen into rigid, nameless terror at the mingled sounds which came to him out of the darkness. A plainly audible thud; a gurgling death cry and a woman's shrill scream! But when his flying feet had carried him back to the cave, he found only the dead body of Milj. Nolain was gone. . . .

Kor felt sorrow at Milj's death. But because he was still only a child, he mourned deeply for his lost mother. And when with the coming of day he had tracked the marauding Henga to his lair and saw Nolain, wretched and beaten, tied down with skin thongs upon the level ramp before the cave, his beady, little eyes glittered savagely and he swore vengeance.

Stealthily, Kor crept from his hiding place and lost himself in the shadows of the jungle. Instinctively, he knew that should he be caught near his mother, Henga would kill him. So he made his way, grief stricken, to





*And presently he knew why he loitered. Guided by a primeal urge, as old as the jungle itself, he gathered the girl in his brawny, hairy arms*



a hidden valley half a sun's journey distant; across the mountain from the Valley of Caves, where the tribe had made its abode for generations beyond recall.

Five winters slipped by—winters which the majority of the isolated tribe found as bitter and lean as usual, because of a lazy improvidence natural to the jungle, and the dim memories of a low-grade intelligence, which allowed them quickly to forget the terrors of each passing day.

But Kor the stripling, thrown suddenly upon his own resources, had developed amazingly. On the first day of his lonely exile, he had found a cave high up on the craggy shoulder of the mountain. It was unoccupied at the time, but he did not take immediate possession. Caution bade him hide and watch a while, which was well. For with the break of a new day, Kala, the deadly, knife-fanged tiger, slipped quietly up the steep slope and with only a perfunctory sniff at the entrance, stalked majestically into the cave to sleep off the effects of a night's hunting. It was plain to be seen that Kala was quite at home.

Both the cave and the little valley were highly desirable in the eyes of Kor, but how was he to wrest them from their vicious owner? If three fully grown men could not stand in battle with Kala, how could he, Kor, hope to do so? Plainly, it was a situation which called for cunning.

Fortunately for his future well-being, Kor had one characteristic not generally shared by others of his kind. His memory was clear and vivid, enabling him to indulge in an elementary form of conscious reasoning. And he knew he must have that cave long to survive the jungle. So he decided to lurk in the tree tops, bide his time and watch.

And eventually his patience was rewarded. Thrice when Kala went forth to hunt, Kor was following from a safe distance. And thrice he noted that Kala took the same trail each time—down the steep shoulder of the mountain to a shelving ledge. Kor thought Kala very negligent in the way he leaped with scarcely a pause from twice a man's height to the same spot on the level floor of the stream bank. Some day the foolish Kala would leap from that ledge directly into the toils of a lurking enemy. Kor felt quite sure that he, Kor, would stop and examine the valley very carefully before making such a leap.

Then little Kor trembled at the immensity of a sudden thought—the dawn of his first original idea. Carefully, he thought out the details and decided that it was well worth a trial.

Consequently, upon the occasion of Kala's next careless leap from the ledge, he paid for his arrogant neglect with his life. Too late he saw the bristling array of sharpened stakes sprouting from his accustomed landing place. . . . And when he was quite dead, impaled upon one of the stakes, Kor had won not only a choice cave and the undisputed ownership of the little valley, but a fine sleeping pelt as well!

So the waif had survived and prospered during the years which brought him into early maturity. And while the sharper edge of his hatred had been worn away by the constant struggle for existence, he did not forget Henga. The same vivid memory, which added so much to his skill and cunning, also kept alive in the background of his mind a picture of the treacherously slain Milj; of Nolain, bound and beaten at the cave entrance.

And he was always conscious of a haunting loneliness; an instinctive desire to foregather with others of his kind. But because of Henga, this could not be. Always, he was forced to hunt alone; to lurk unseen in the shadows, when the tribe made merry on feast days.

It was on a feast day that he acquired Leetah.

Stretched full length along a great bough overhanging the clearing, Kor watched intently and wistfully. No single movement of the roistering crowd escaped his sharp eyes. And he was oddly drawn to the charming, little girl-child, Leetah, who slipped unobtrusively from one family group to another; seemingly unattached to any of them. Kor learned later that Leetah's father and mother had recently been killed by an invading cave-bear.

Feast days were great occasions to the constantly harassed tribe. The first day of each full moon was a holiday when Ahtah, the witch, who, rumor said, had been old in the days of Henga's grandfather, with her sorcery and magic stones, made a great fire in the clearing. On feast days the fifty-odd members of the tribe could gorge themselves to repletion on the scorched flesh of carcasses roasted whole in the fire—a palate tickling change from the daily diet of raw meat, roots and herbs, with a sprinkling of wild fruits and berries in season.

Kor's mouth watered, as odors of the roasting meat drifted up to him. Only twice in his entire life had he tasted cooked meat, but the flavor was unforgettable and he resolved that one day he should spy upon Ahtah. Why should that wrinkled old hag alone possess the secret of making fire?

Then a bold plan flashed into his active mind and he settled down to await the coming of darkness.

THE jungle buzzed with its myriad small noises of the night. Katala, the leopard, coughed in fury at her escaping prey, while from a safe distance Aka, the hyena, looked on and laughed in glee. Cheetee, the ape, lord of the upper terraces, chattered scoldingly at a gliding, grey shape in the tree top next to his. Silently as the drifting shadow of Akana, the vulture, Kor slipped to the ground and crept forward.

Only a few of the tribe had retreated to their caves with the coming of darkness. Most of the feasters had curled up in their tracks and lay in scattered heaps about the dying fire, lost in a coma of restless sleep. Even the sentinel had relaxed, with his back to a tree and his snores, joining with the general chorus, told Kor that the time was ripe.

Flat on his belly, he inched his way between the sprawled sleepers. At one point he cautiously raised his head and found himself less than an arm's length from Henga. How easy it would be to crush his enemy's head with one of the two flat stones he carried! Sight of the still comely form of Nolain sleeping at Henga's side, caused an unwonted lump to spring up in Kor's throat and he raised his arm to strike. But caution stayed his hand; the noise would undoubtedly arouse the tribe and he would be torn limb from limb. Reluctantly, he continued on his way toward the fire.

Carefully, he caught up a number of glowing coals, secured them between the two flat stones and began his retreat. Reaching the outskirts of the sleeping tribe, he raised his head for a final glance about. Inadvertently, his elbow brushed the shoulder of one of the sleepers—

a girl, from the slender, shapely contours of her body. Would she awaken? Kor held his breath as she stirred, sighed, raised her head and looked directly into his eyes!

Quick as a striking snake, Kor's free hand lashed out and struck the girl a noiseless blow across the temple. With only a spasmodic little quiver, she relaxed, senseless. After lying flat and motionless for an instant, Kor raised his head and again looked about. The slight commotion had not been heard and his eyes came back to the girl who had so nearly been his undoing.

Even in the dim darkness he knew she was the same girl he had watched with such queer stirrings of emotion during the day. Perhaps it was the unusual golden-brown coloring of her downy fur and hair that had so attracted him. And perhaps it was because she, like himself, was lonely—a waif. But now he noted that she was not the child she had seemed. The tangled braid of hair might well reach to her knees and full, rounded breasts denoted complete maturity.

Kor realized that he was spending precious time loitering beside the girl, when he should be making good his escape with the stolen fire. And presently he knew why he loitered. Guided by a primal urge as old as the jungle itself, he gathered the girl beneath a brawny, hairy arm and melted silently into the shadows.

At the cave, he dumped the limp figure into a corner and set to work with the stolen coals. Shortly, a tiny fire of dry twigs flickered in a niche at the back of the room, and a wisp of pungent smoke wafted lazily upward to be caught by a draft from a fissure in the ceiling. When the little flame had grown beyond danger of extinction, Kor's chest swelled out and he surveyed with pride his double achievement—the crackling fire and the golden-brown girl.

Aided by a cold splash from the water-skin, the girl presently sighed and opened a pair of soft, dark eyes. Fearfully at first, she shrank back against the wall and stared at the handsome, fuzz-covered face of the tall youth who regarded her with such obvious admiration. Then she remembered the feast in the clearing—the night marauder—

"Where am I?" she asked in a small, frightened voice.

"In the cave of Kor, in the valley of Kala," replied the youth truculently, to cover his own trepidation. "What is your name, woman?"

"Leetah."

Leetah; the humming bird. Kor was vastly pleased with her name. It suited her perfectly. But with only a grunt of approbation, he waved his hand toward the niche in the wall.

"Look well at yonder fire, Leetah. To feed it and keep it always burning shall be your most important task in this cave. Once let it die, and——" the warning flash of his eyes made worded threat unnecessary.

"It shall be done, O Kor," Leetah assured him, hastily. Then timidly: "You have taken me to mate?"

"What else, woman? Think you I have carried you here as a childish prank?"

Softly, Leetah began to cry, while Kor looked on, first annoyed, then puzzled. Had she rebelled against him—fought, scratched and bitten, he would instinctively have known what to do. But the present situation was completely beyond him. Kor had seldom seen even his mother weep. Verily, Leetah was strangely different from other women of the tribe. And because Kor, too, was different, a feeling of pity stirred within him.

Awkwardly, he reached out and patted the soft, rounded shoulder.

"Weep not, little humming bird," he offered. "If my lair is so distasteful, then you may return to the Valley of Caves."

Leetah was so astounded that she promptly forgot her weeping. Such generosity in men; such consideration of women, was absolutely unheard of!

"I don't want to go back."

"Then why do you weep?" Kor was more puzzled than ever.

"I know not," replied Leetah. "Always have I dreamed of keeping a strong man's cave. But I am not tall and broad, as are most women. And although Ahtah says that my age is full sixteen summers, I remain small and slender, like a child, and no man has ever before looked at me with desire in his eyes—even if I am really stronger—and quicker—than other women——"

Fiercely exultant, though strangely shaken by unaccustomed emotion, Kor carried the trembling but manifestly happy Leetah over to the soft sleeping skin which once had clothed the careless and arrogant sabre toothed tiger, Kala. . . .

ANOTHER winter was harassing the tribe. But within the well-stocked cave of Kor, a cheery fire was blazing and a lusty baby howled steadily for maternal attention. Kor, seated cross-legged before the fire, growled over his shoulder.

"By Thoth, Leetah, can you not quiet that yearling? Have I nothing better to do than listen to his squeals?"

Shortly the offending noise subsided and Kor turned back to his task of chipping and grinding innumerable stone tips for the little spears required by the new weapon—the weapon with which he was rapidly becoming so amazingly proficient.

Kor's invention of the bow and arrow had been due partly to accident and partly to his keen observation. One day early in the winter he had gone forth to set some twig and thong snares for small game. And while flexing a small branch above a rabbit run the noose had slipped from his grasp. Under the tension of the bent branch the thong had straightened with a twang and the twig, caught in the slack of the thong, had been cast against the trunk of a nearby tree with surprising force!

Thus was born the first crude bow—a weapon destined to lift struggling mankind from the mire of the beast and put his feet on the long, steep climb to supremacy.

With Leetah, Kor knew the beginnings of contentment; the vague stirrings of placid happiness, and it is very likely that but for two things, his hatred of Henga would have passed slowly into oblivion. First, there was Leetah's ambition and growing restlessness. Then Henga made a grave mistake.

Unlike Kor, Leetah was not inured to the isolation, and she grew to miss the petty jealousies and constant bickerings of the tribe. And she yearned for the gala festivities on feast days; the smoke of the big fire; the pungent odor of roasting meat; the merry, if strenuous sports, and the quick commotion of violent combat, as two men settled differences in the only way they knew.

And she was inordinately proud of the wiry, clever Kor. No man in the tribe, she felt sure, was quite so fleet of foot, or nearly so quick of hand and eye. True he, like herself, was small of stature and not so heavily muscled as some, but there was his rapidly growing skill



with the new weapon. Could any other man of the tribe slay Katala, the leopard, from a distance of many paces; mayhap from the snug safety of a tree top?

Leetah could see no good reason why Kor should not occupy that most enviable of positions—chief of the tribe!

With these thoughts constantly before her, she set about to inspire her lord to the noble effort of dethroning Henga. And doubtless in time she would have succeeded, regardless—. But events were precipitated in a most unexpected manner. Henga made a grave mistake!

Concealed beside a game trail one day, he saw the now fully developed Leetah approaching the spring, an empty water skin thrown across her shoulder. Flames of desire burned in Henga's mighty chest at sight of her. Like Nolain, this woman was different in some indefinable way, and he must have her! With Henga, to desire was to take, and history repeated.

Kicking and squalling, Leetah was dragged off to his cave.

The older two of Henga's wives, after one contemptuous glance, went stolidly about their business, plainly disdainful of Leetah's girlish slenderness. But the other woman, into whose care Leetah was remanded, was oddly attractive in spite of her increasing years and plumpness. She appraised the girl with a kindly eye. For had not she, Nolain, also been carried off by Henga in the same high-handed way?

Surreptitiously, Nolain attempted to solace the wailing Leetah by relating the story of her own capture; the killing of Milj and the loss of her stripling son, Kor, who, without doubt, had perished during the following winter. At mention of Kor's name, Leetah ceased her wild sobbing and sat bolt upright. A ray of hope glimmered through the darkness. . . .

Huddled in a dark corner of the cave, Nolain and Leetah talked and plotted until the lowering sun slanted through the entrance and warned them that Henga would soon be returning.

In a dim, reasonless way, Henga was puzzled but none the less pleased at Leetah's meekness that night. It would seem that Nolain, who had learned well the bitter lesson of obedience, had convinced the golden girl of the folly of resistance . . . for which Nolain should be duly rewarded . . . after so many seasons, she was beginning to be worth her meat!

When Kor returned at sunset and trailed the missing Leetah to the spring, thence to Henga's cave, his fury knew no bounds. Twice had Henga taken from him that which was most precious. Twice over had Henga earned death at his hands. Red rage urged him to ambush the savage chief and slay him with an arrow. But such retribution would not allay Kor's burning lust for revenge. Henga must die, to be sure. But also he must know why this was so.

And there was the matter of the coveted chieftainship. In this respect the custom of the tribe was inexorable. The deposed chief must be slain in open, hand to hand combat. Plainly, he must challenge Henga to battle. . . .

Dawn was just streaking the lingering shadows, with the yellow and pink of coming light, when Kor, after attending the needs of his lusty offspring, fastened the grate of woven willow wands across the cave-mouth behind him and made his way across the mountain to the Valley of Caves.

While yet a goodly distance away, he began crying the challenge.

Leetah, lying sleepless in her corner of Henga's cave, heard and was glad. And the hunters of the tribe heard and forsook their slumbers to hurry to the clearing, fearful of missing a single move in the presaged battle. Henga heard and started groggily to his feet.

Who was the upstart that dared challenge him? And on this, of all mornings, after a night of evil, feverish sleep. Truly, the worthy chieftain had had a bad night. His knees were oddly tremulous. His sight was dimmed by a pulsing red haze. And a gnawing pain stabbed at his vitals. Strange that he should feel so sluggish. He had eaten but sparingly of meat the night before.

Shaking his low-browed, bullet head resentfully, he took a long draught from the water skin, which momentarily cleared his wits and his vision. He would go forth and make short shrift of this impudent challenger. Making sure that the flint knife was secure in its sheath beneath his girdle, he caught up his spike-studded war club, shouldered a heavy, stone tipped spear and made his way to the clearing where Kor, surrounded by a ring of silent hunters, already awaited him.

As he broke through the ring and faced the challenger, he heaved a prodigious sigh of relief. Yon slender stripling would be easy to smash, even though he, Henga, was so sorely beset by sharp pains in the belly.

And Kor, though his eyes blazed with hatred, surveyed the formidable bulk of his adversary with no little trepidation. Would he, the panther, successfully conquer so old and seasoned a tiger as the shaggy Henga? But he was grimly determined, and if Henga would only agree to the use of *any* weapon he chose. . . .

"Hear ye, Henga," he spoke up, boldly. "I challenge you not alone for the chieftainship. I shall take that, to be sure. But also, I shall be avenged—twice avenged. For Leetah is my mate and Nolain is my mother!"

In spite of paralyzing pain, Henga managed a very creditable roar. "Ha, yearling!" he taunted. "You make big words. Come hither so that I may smash you quickly and the sooner return to Leetah's caresses!"

Such a retort well suited Kor, and he promptly replied:

"Mayhap the mighty Henga can also conquer my new weapon as easily?" And he brought the bow into view.

For an instant Henga eyed the harmless looking wand-and-thong contraption and was tempted to ignore it. But the pain in his stomach made him cautious and he said:

"Nay. Ye shall fight even as I fight; with knife, club, spear and striking stone; one or all."

So Kor tossed aside his bow and braced himself to meet the sudden onslaught of his enemy.

The fight was fast and deadly. Two heavy war clubs crashed together as Kor parried Henga's ferocious swing. And the terrific impact wrenched both clubs from their hands and flung them away; over the heads of the on-lookers. In quick succession, spears and striking stones went the way of the clubs and the fighters were circling each other cautiously, armed only with knives.

Great beads of sweat stood out on Henga's narrow, yellow forehead. Surprise and the first pale shadow of apprehension mingled with the killing pain in his stomach. It would seem that this stripling was not so easily to be crushed. Deceptive strength hid in those smoothly rounded arms and shoulders. Never before had an op-



ponent caught Henga's striking stone in mid-swing. And something of the force behind that swing was told by the sharp concussion with which both stones were pulverized!

With lightning speed, Kor dodged in and raked the point of his knife across Henga's hairy chest and leaped back to safety. Henga roared with pain and rage, and Kor tried the maneuver again. But this time he was not so successful. For with a quickness unlooked for in one of his ponderous hulk, Henga's huge paw closed about Kor's knife wrist and the next instant found them fast in the age-old deadlock of knife fighters—each holding at bay the weapon of the other—a test in which brute strength alone must eventually conquer.

And the odds would seem to be in Henga's favor. Desperately, Kor fought to stay the approach of that deadly point. He strained until the muscles of his tortured arm and shoulder stood out in writhing knots, but the knife crept slowly, inexorably closer to his throat. Closer . . . closer . . . his breath was coming in great, laboring gasps and his heart felt as though it must burst from his body . . . and a sudden flash of intense, white light smote his eyes. . . .

Another relay clicked and the laboratory was flooded with light. Dazzled and bewildered, the man and woman on the reclining chairs sat up and looked about. Then the man shook his head, smiled and removed the now useless headbands.

"And what do you think of my little invention now, Enid—or is it Leetah?"

"It is wonderful, Nathan! Enid and Leetah—Nathan and Kor—they are the same, aren't they?"

"Yes. During one brief instant we possessed the collective memory of the entire, living world. And we

traveled back along this memory stream; back to the common ancestors of the race of to-day. To-morrow, the dream would be different, as would also have been the case yesterday. For the dimensional space-strain which we call 'time', and which is accessible to us only through memory, is constantly being altered by deaths and births. It is not constant. Sometimes it goes back and sometimes it goes forward—but always into the past.

"I have not yet been able to penetrate the future, although some day——"

"And to think that it all happened so quickly," the girl murmured. "Why we were only asleep for a few minutes, and you say the memory impulse came to us from the tube in a single flash just before we awakened!"

"Such is the case with all dreams," nodded the man. "The memory-lag; association of ideas and so forth. But tell me, Enid—or is it Leetah?—did you see the finish of the fight?"

"Of course not. You forget that the women were not allowed among the spectators."

"Did I—did Kor—get killed?"

"No."

"Then you stayed a little longer than I. Tell me what happened."

"On the night before the fight, Nollan and I—Leetah—put poison in Henga's meat——"

"The deuce!"

"Yes. But it was not strong enough and he fought—almost too well. He almost killed you with his knife. But at the last second you—Kor—broke loose. And by that time, Henga must have been crazy with pain, for he did something no man had ever done before. He turned and ran!"

"And you—Kor—killed him with an arrow!"

THE END



## What Do You Know?

READERS of AMAZING STORIES have frequently commented upon the fact that there is more actual knowledge to be gained through reading its pages than from many a text-book. Moreover, most of the stories are written in a popular vein, making it possible for anyone to grasp important facts.

The questions which we give below are all answered on the pages as listed at the end of the questions. Please see if you can answer the questions without looking for the answer, and see how well you check up on your general knowledge of science.

1. What reaction steam-engine is attributed to a scientist of some 2,000 years ago? (See page 5.)
2. What great defect appeared in the first practical steam-engines? (See page 5.)
3. What made the steam-engine self-operating? (See page 5.)
4. What type of steam-engine did Watts invent? (See page 5.)
5. How was reciprocating motion taken from the steam-engine? (See page 6.)
6. Give the essential difference between the steam-engine and the gasoline engine such as used in the automobile. (See page 6.)
7. What is Pallas? (See page 8.)
8. What is the distance (average) of Jupiter from the Sun? (See page 13.)
9. What is the formation of the tail of a comet due to? (See page 15.)
10. What would be a probable accurate description of a comet seen at a small (celestial) distance? (See page 17.)
11. What is Easter Island's famous mystery and what was it supposed to tell of ancient days? (See page 51.)
12. What ether waves affect our vision? (See page 66.)
13. What is invisible "light"? (See page 66.)
14. What air vibrations may be termed inaudible "sounds"? (See page 66.)
15. What is the *fer de lance*? (See page 70.)
16. What is to be said about our knowledge of the motion of the universe? (See page 78.)
17. About how long would it take light to reach us from a celestial body three hundred million miles distant? (See page 80.)

# The Phantom of Terror

By Ed Earl Repp

*A RATHER wonderful story of the fifth dimension by Ed Earl Repp, recognized as one of the most admired authors of Science Fiction. He is well known to our readers and we are sure that they will enjoy every word of this exciting narration.*

PROFESSOR JEROME MORTENSON, hunched over the work bench in his private laboratory, looked around suspiciously at the sound of stealthy feet behind him, and found himself looking into the cold, unwavering muzzle of an automatic. The masked, midnight intruder who held the leering weapon in a steady hand, halted abruptly in his tracks and crouched tensely. He breathed hard, making the only sounds audible in the instrument-filled room.

"Stand up, professor!" the intruder said coldly. "Don't try anything! The gun is liable to pop!"

Mortenson eyed the man calmly from head to foot, his gray, penetrating eyes trying hard to see behind the polka-dotted kerchief that hid the fellow's features from the bridge of his nose downward. All that he saw, however, were a pair of beady eyes, flashing with deadly earnest, a muscular figure that filled a well-cut brown suit, polished black oxfords and a white flannel cap, the latter pulled rakishly down over the right temple. The man's eyes fascinated him for a moment. A devilish light seemed to radiate from them with almost stunning force. They gave him the aspect of a dangerous man.

"What do you want?" Mortenson grumbled, appraising him to avoid his glittering orbs.

The intruder chuckled softly, never once removing his steady gaze from the apprehensive features of his victim. He fumbled into a side pocket of his coat and brought out a scrap of wrinkled newspaper which he handed to the scientist with an insolent shrug.

## Discovery of a Way to Penetrate the Fifth Dimension

"You should have had better sense, professor," he said coldly, "than to tell the world that you had discovered a way to penetrate and enter the Fifth Dimension!"

Mortenson reached out for the paper, a startled look in his eyes now. His hand trembled suddenly as he unfolded the clipping and glanced over it.

"I presume you refer to my interview with the editor of the *Journal*, eh?" he inquired, controlling his anger and fear. "What has that to do with you."

"Plenty!" the fellow snapped, advancing a step. "I want the apparatus-used to enter the Fifth Dimension!"

"YOU must be crazy," Mortenson gasped weakly. "You could never make use of it!"

The intruder grunted and Mortenson heard the click of the safety catch as the man's thumb slid along the side of his automatic.

"That's where you come in!" he shot curtly. "You're going to see that I *can* make use of it!"

"What do you mean?" the scientist asked innocently.

"You know what I mean!" the man hissed sharply. "Don't try to pull that 'no savvy' stuff on me. You're going to hand over your Fifth Dimensional apparatus with instructions on how to use it. Now hop!"

"You don't know what you're doing," Mortenson argued desperately. "You must be insane!"

"Don't I?" the man jeered. "What do you think I came here for?"

"The apparatus, of course," said Mortenson, glancing about him furtively in search of a handy hammer for a weapon, "but, good Lord, man, you must be fond of trouble!"

"I'm used to it!" the intruder snarled. "And I'm giving you two minutes to hand 'em over!"

"That interview did not tell what actually exists in the Fifth Dimension," the scientist said dryly. "It's a terrible, invisible world filled with strange beasts that would tear a man to pieces, should he be caught there."

"You're a calm liar, professor!" the other jeered





*The phantom bandit stood before him, a cold, significant sneer on his lips. Suddenly he laughed outright, like a man without a soul. The tone of it filled Mortenson with fear.*



venomously. "It says plainly that the Fifth Dimension is nothing more than a curtain of invisibility!"

"Of course," Mortenson replied evenly. "I said that, because I did not want to frighten narrow-minded people with the knowledge that on every side lurk weird, ferocious man-beasts that would annihilate them, were it possible for them to emerge from behind the veil that hides the Fifth Dimension from human vision."

The intruder glared at him, his eyes narrowed suspiciously. Then he shrugged his broad shoulders decisively.

"You've got one more minute to deliver the goods, professor!" he barked. "I want the apparatus and instructions on how to operate it. Now sit down at your typewriter and pound 'em out!"

"It's all right with me, young fellow," said Mortenson resignedly, "if you want to seal your own doom. That's what you are going to do if you do some criminal act and place yourself in the Fifth Dimension to escape apprehension. It's your life, not mine. You won't listen to reason. I hate to see it. . . ."

"Shut up!" the other growled. "Sit down and write fast!"

"If I should refuse?" Mortenson paused at his typewriter.

"Then I'll drill you sure as hell!" the intruder sneered, tensing.

### Succumbing to the Threat to Kill

MORTENSON hadn't a qualm of doubt but that the fellow would kill him in cold blood if he refused. And Mortenson had a great desire to live. He had just discovered a way to penetrate, neutralize and enter the invisible world of the fifth dimension. He was on the verge of doing great things in the world of science, and he had no intentions of removing himself from it by refusing the demands of this daring crook who was, doubtless, as dangerous as he was fearless.

As he sat down at the typewriter he had a sudden feeling that he would be doing the law-abiding citizenry a great favor by meekly writing out instructions as to how to operate the fifth dimensional apparatus. The daring crook would undoubtedly meet his just deserts, if he ventured behind the veil into the mysterious world of the fifth dimension. The law of man would not be required, he thought, to bring the man to justice. What lay beyond would see to that.

He shivered a trifle as he thought of it. Swiftly his fingers flew over the typewriter. Meanwhile the crook stood over him, glaring hostilely, his gun in readiness to send instant death into the man whose life had been spent delving into the mysteries of the dimensions. The ignorant fellow could not know what was in store for him, and he had refused to listen to cold reason. Mortenson's warning had come from the heart. He had seen what lay behind the veil, and had been so sick and nauseated at what he saw, that he had slept little

for some nights thereafter. But let the obstinate fellow go!

Mortenson yanked a sheet of paper from his typewriter, glanced over it quickly and stood erect.

"There you are, my friend," he said with a shrug. "The instructions are full and complete. I'll get the apparatus for you."

"Mortenson," the man snapped coldly. "If you've bunked me I'll come back and blast you into hell! Get that?"

"Never fear, young man," the scientist said, eyeing the fellow squarely. "The instructions are perfect and simple. Follow them to your doom. Now for the apparatus. . . ."

"Just a minute, professor," the crook cut in. "You got any plans for the apparatus?"

Mortenson glanced at him shrewdly, suspiciously. He shook his head.

### A Glib Lie Well Told

"NO, I have not," he lied glibly. "I have no way of duplicated the apparatus, if that's what you mean."

"That's it exactly," the other sneered. "If you're lying. . . ."

"I'm not!" the scientist grumbled. "I have not yet had time to make plans or illustrations. Not getting cold feet, are you?"

The man laughed weirdly.

"Do I look yellow?" he grunted.

Mortenson agreed silently that he certainly did not look like a coward. But maybe the yellow streak would show up afterward, when it was too late to save himself. He smiled grimly and turned his back on the man. Quickly he strode to a big steel vault that stood in one corner of the room. The doors hung open. He bent over and removed a strange-looking helmet and an oval apparatus to which was attached a wide, metal belt. Wires ran down from the helmet and hung loosely with small plugs dangling at the ends. In front of the helmet were firmly attached two projecting tubes. With the helmet in place on a man's head, these tubes fitted in front of the eyes, like field glasses.

The crook appraised the apparatus calmly. He displayed not a trace of excitement now, but Mortenson's blood pounded at his temples. He did not object to handing over his instruments, if they were to cause justice to place the hand of doom on the man who was robbing him and who had and would rob others. Within ten days he could construct other sets. The plans were in a safe-deposit vault in the bank. Mortenson was nobody's fool, though it had not entered his mind when he gave the *Journal* editor the interview, that his inventions would ever fall into the hands of the underworld. He was vaguely sorry now that he had allowed the news to be published, but it was too late for sorrow at this time. The thing was done.

"There you are, young fellow," he said, placing the apparatus in a heap on the bench. "Take it and be damned to you!"

"I didn't figure to get it so easy," the crook said, advancing toward the bench. "I've got a hunch you're trying to be smart!"

He glared at the scientist evilly, his fiery eyes glittering like the pink orbs of a snake.

"How do you put this stuff on?" he added with a snap.

"Helmet over the head, cylinders in front at the eyes," said Mortenson, hiding a grin. "Belt around the waist with attachment at the back. Plug the wires into the oval unit and send yourself into hell!"

"Funny, aren't you?" the fellow growled. "Is that all?"

"Wait and see!" Mortenson mused.

"If you're pulling a fast one . . . here! Take this to remember what'll happen to you if you are!"

### A Blow on the Head—Collapse

The crook stepped forward suddenly. Before Mortenson had time to move the automatic crashed with a thud on his head. He sank to the floor with a groan, a terrible roar in his brain, great, dancing lights spinning before his dazed eyes. The intruder looked at him once, stepped over the still body and picked up the apparatus. With a pleased grin he made for the door and vanished into the night.

## CHAPTER II

WHEN Professor Jerome Mortenson regained his senses a midday sun was casting its brilliant light and warmth through a skylight directly over him. His head throbbed painfully, his lips were dry and feverish. Dark stains on his shirt-front made him feel his aching head. His hair was matted with coagulated blood, his cheek was caked. He marvelled that he had survived the terrible blow at all.

Half-dazed he stood up, swaying like a drunken man. The room spun like a top. He closed his eyes to steady himself, then lurched slowly toward a washstand to douse his head in cold water. A trickle of vermillion ran down his temple after the dried blood had been washed from a gaping scalp wound that would require at least three stitches to close. Holding a towel over the gash he sat down to his telephone, called a doctor, and waited in gloomy silence for his arrival.

He did not have long to wait, however. Within fifteen minutes the medico was on the scene and in less time the wound was stitched and bandaged. Feeling the effects of a sedative administered to him, Mortenson became more alert. Rapidly his mind raced over the robbery. To make sure that he was not dreaming he went to his safe. The fifth dimensional apparatus was gone all right.

"Damn!" he ejaculated softly, and then: "Oh, well! It's a wonder the devil didn't kill me. He thought I was fooling with him, but . . ."

The shrill cry of a newsboy outside suddenly at-

tracted his attention. He listened as the cries grew louder. Trembling he went to the door and stepped out into the open. The sun was dazzling and made his head ache violently for a moment. The newsy paused in the street and yelled at him.

"Paper, mister?" he cried sharply. "Extry! All about the phantom bandit!"

### The Phantom Bandit in the Newspapers

Mortenson dug into his pocket and bought a paper. The headlines made him wince. Quickly he returned to his laboratory, sat down and began reading with a strange feeling of helplessness.

### VANISHING BANDIT ROBS DOWNTOWN BANK

Slays Teller and Escapes with Fortune  
Police Baffled

LIKE a colorful character stepping out of a fantastic Edgar Allan Poe story, a lone bandit early today held up the Farmers' National Bank here, shot and killed James Sprowl, a teller, and escaped with approximately \$250,000.00 in cash.

The holdup occurred shortly after the bank opened its doors this morning and according to Martin Jones, Sprowl's assistant, employees were forced to line up beside the vault at the command of a man who appeared as if by magic.

Speaking almost hysterically of the bold daylight robbery, Jones is quoted as saying:

### Details of the Bank Robbery

"The bandit seemed to appear out of thin air and wore a strange mask that had two long cylindrical objects sticking out from the eyes. He had not been seen to enter the bank after the doors were opened.

"I heard his command, even before I could see anything more than a vague shadow looming up in front of our cage, and then there appeared a peculiar glow around it from which emerged the bandit.

"He covered Sprowl and me first. I do not recall just what happened and I'm not certain if Sprowl grabbed the gun under the counter. But the mysterious bandit's automatic exploded and Sprowl fell dead at my feet.

"With everyone cowed and appalled, the man forced us to fill a bag with all available cash and with the money he vanished into the air again right before our eyes. For a full minute, thereafter, there was a peculiar blue haze in the spot where he vanished. I heard him laugh weirdly as he disappeared like a ghost."

### A Visit from the Detective Police

Mortenson continued to read the accounts for some minutes; then suddenly he was interrupted by a loud knock on the door. He jumped nervously, laid the

paper aside and went to it. His hand shook on the knob and his lips twitched. He swung the door wide open, to find himself confronted by two burly detectives. They displayed their badges with little formality. But Mortenson knew what they were after.

"Come right in, gentlemen," he invited quickly. "I've been expecting this call."

"Oh, you have, eh?" Detective-Lieutenant Barton grunted sarcastically. He glanced over Mortenson with shrewd, suspicious eyes and entered. Riley, his companion, followed him, his right hand buried in his coat pocket. Barton continued: "What made you expect this call?" he snapped bluntly.

At first glance at the newspaper headlines, Mortenson knew he would be suspected of being the phantom bandit. The world already knew that he, of all people in it, had been the first man to solve the mysteries of the fifth dimension through the use of strange apparatus such as worn by the bandit, but he had little doubt of establishing his innocence, so far as the robbery and killing was concerned. He sat down heavily in a chair as though to prepare himself for an ordeal of questioning.

"WELL," he said slowly, "having invented the apparatus used by the bandit to make himself invisible, and being known as the inventor, I would naturally expect to be questioned by the law, considering the circumstances under which that apparatus has been used. I presume I am suspected of being the phantom bandit?"

Barton scowled as though taken aback by the scientist's cool, straightforward speech. He glanced at Riley, whose steel-blue eyes twinkled with suspicion and amusement.

"You are not only suspected, but accused, Mortenson!" Barton growled. "What have you to say to that?"

The scientist appraised him calmly, a flush of warm blood mounting to his cheeks. His head throbbed again and made him slightly dizzy.

"I'll say that I can put you on the right track if you'll listen and don't go off half-cocked," he said curtly, beginning to resent the officer's hostile attitude.

"I suppose you'll deny your guilt?" Riley put in ruthlessly.

"I'd be a fool to confess to something I did not do," Mortenson informed him quickly. "You fellows seem pretty sure of yourselves, don't you?"

"Now, Mortenson," said Barton, shoving a cigar between his teeth and pausing to chew at it. "I don't want any beating about the bush. I want you to tell me exactly where you were this morning at nine-fifteen."

"That's easy, Barton," said Mortenson coolly. "I was lying right there on the floor, knocked out completely. As usual I worked late last night. About midnight a masked man came in here, robbed me of my fifth dimensional apparatus, knocked me cold with his gun and skipped. That's the reason for the bandages on my head and the cause for that blood-stain

on the floor near your feet. I came to about an hour ago, had Doctor Brandon sew me up, and then bought a newspaper which informed me of the bank holdup and killing.

"I hardly blame you for suspecting me, but you can see at a glance that I had nothing to do with the bank affair, except, of course, giving the crook instructions as to how to operate the apparatus."

"Why did you do that?" snapped Barton.

"To live, Barton," the scientist retorted. "You probably know what it is to face a gun, not knowing what minute it might go off."

### The Blood Stain on the Floor— The Bandaged Head

THE detectives exchanged baffled glances and Barton bent over to appraise the blood-stain on the floor. Riley's eyes roved about the room and finally concentrated on Mortenson's bandaged head.

"Suppose we have a look at that head, Mortenson," he said with a shrug of his powerful shoulders. Barton looked up.

"Never mind that, Riley," he said authoritatively.

"Let Wagner do that at headquarters."

"You mean you are going to take me in on suspicion?" Mortenson sat bolt upright.

"I've got a warrant for your arrest, Mortenson," the other replied firmly. "Your story sounds pretty good to me, but I'll have to book you at least. You'll probably be released on your own recognizance, if the police surgeon's report is satisfactory. You know . . ."

"Oh, I know, Barton," said the scientist with a nod. "You think I might have put that stain there and bashed my own head to establish an alibi. Well, you're all wrong. Look in the wash-stand and you will see that I washed the blood off my head and face there. It takes at least eight hours for blood to coagulate and I'm sure you will find clots in the sink to prove that I was injured shortly after midnight."

"Why didn't you report to headquarters when you come to?" Riley grumbled.

"I don't know," said Mortenson. "I guess I was too dazed. Then Dr. Brandon came and fixed me up. After that I became interested in the news of the bank robbery."

### CHAPTER III

ENTANGLED in the net of the law, Mortenson, despite his high social standing and fame as a scientist, was taken to police headquarters and summarily booked on suspicion. He went through the process of being finger-printed and "mugged" like a man in a trance. All the while his head ached violently, sending sharp, stabbing pains through his brain. The reaction of the blow was telling on him now and his hands shook. But he submitted to the rigid rules of the police department without protest, for he had little fear of failure in proving his innocence, if given the chance.



**The Wound Examination by the Police Surgeon**

Finally Police Surgeon Wagner removed the bandages from his head and appraised the scientist's scalp. Already the edges of the gash were beginning to heal. A soft scab was forming at the ends of the cut.

"Lucky for you, Mortenson," Wagner said with a grin as he began to re-bandage the scientist's head, "that you have a thick skull. The blow might have killed a man less fortunate."

Mortenson nodded. "The devil hit me without warning," he mumbled, "with the barrel of his gun. Barton hinted that I bashed my head in to establish an alibi!"

"You'd have to be a contortionist to do that," laughed Wagner. "I get a huge kick out of some of the flat-feet we have on the detective force. You've been sluggish and no mistake, Mortenson."

"Thanks, Wagner," said Mortenson warmly. "Doubtless you'll put that in your report."

"Of course," the surgeon replied, ripping some adhesive tape from a roll. "I couldn't do anything else in this case."

"Then I'll be turned loose," said Mortenson grimly, "on my own recognizance. If I can get help from the Police Department, I'll make it mighty hot for a certain bank robber . . . that is, if he hasn't already jumped into the fire. Time alone will tell."

Mortenson could not know that at that very moment the Phantom Bandit was again making his appearance in the heart of the city's banking district. This time the daring crook chose the Inter-State Bank for the scene of his activities. But as the scientist sat in Wagner's office waiting for the final cessation of police procedure, he heard the flying squad suddenly tear out of the adjoining station amid a riot of screaming sirens.

He could not help but conclude that something serious was taking place somewhere in the city. The scream of the sirens gradually subsided as the speeding police cars put distance between them and headquarters. Mortenson glanced at the surgeon as the telephone on his desk jingled. Wagner pressed a button quickly and the ambulance roared out of the receiving hospital driveway. The surgeon then glanced at Mortenson.

**Another Robbery and Murder—What Is a Fish?**

"THE vanishing bandit robbed the Inter-State Bank, Mortenson," he said crisply. "Killed a watchman and shot up another teller. I guess that lets you out entirely, old man. You couldn't be the Phantom Bandit and a *fish* at the same time."

"Fish?" Mortenson queried blankly. "What do you mean?"

Wagner laughed at the other's questioning expression. "Fish," he said quickly, "is what we call prisoners."

"Oh," mused Mortenson. "Teller hurt bad?"

"Dunno!" said Wagner. "They usually are when they're sent here." He turned to the officer into whose

custody Mortenson had been placed for his visit to the receiving room. "Take Mr. Mortenson to the desk, Tully," said said. "They'll want to release him and apologize. That's all! And good luck, Mortenson. Hope you catch the phantom bandit."

"Much obliged, Wagner," the scientist replied, rising. "I trust you'll be ready to receive his corpse."

Wagner chuckled. "In that case, send it next door," he grinned. "The morgue handles the remains. Think you'll catch him?"

The surgeon's attention was diverted by a sudden screech of brakes outside. He gave Mortenson a passing glance and went out. Officer Tully escorted the scientist to the desk-sergeant.

"Heard the news, Mortenson?" the sergeant inquired, grinning.

"About the new robbery—phantom bandit?" the scientist grunted.

The sergeant nodded. "Robbed the Inter-State Bank in broad daylight and got away like a ghost," he responded talkatively. "By the way, what kind of an outfit was that he got from you?"

"Rather complicated to explain here, sergeant," Mortenson said, impatient to obtain his release.

"Yeah?" the other replied slowly. "One of those things, huh?"

"One of those things, sergeant," Mortenson repeated restlessly. "I suppose now the law is convinced that I am not the phantom bandit. If that is the case, I'd like to get back to work."

"Right you are, professor," the sergeant boomed. "Moreover, the chief requested a moment ago to have your finger-prints, picture and all personal records destroyed. He wants to have a talk with you, if you don't mind."

Mortenson's features brightened. "Of course," he nodded. "I wanted to talk with him. How soon can I see him?"

"Right away, sir!" the sergeant stated, turning to Tully who had wandered off. "Tully!"—he called aloud. The officer came up quickly. "Take Mr. Mortenson up to the chief's office. He's waiting!"

**The Reporters Crowding the Police Chief's Office**

NEWSPAPERMEN thronged the office of Chief of Police Steckel. Mortenson was mobbed until the chief interfered with the eager reporters and ordered them to the press room. The scientist had a keen dislike for notoriety and displayed it at the onset by refusing to answer any of the questions put to him by the zealous reporters. Chief Steckel, seeing this, went immediately to his rescue. The office was cleared quickly. Mortenson was invited to a chair.

"Professor Mortenson," the executive began without hesitation, "just what are the apparatus you report were stolen from you, presumably by this so-called phantom bandit?"

The scientist settled back in his chair, frowning.

"I'm afraid you would not understand, chief," he said complacently, "as they are very complicated. But

if you like, I'll explain them just as simply as I can."

Steckel shook his head eagerly, handed a cigar to the scientist and lit one himself. Immersed in a cloud of blue, fragrant smoke, Mortenson explained the principle of his inventions, their use to science and, unfortunately, to crime. He told what lay behind the veil of the Fifth Dimension, that invisible world beyond the vision of man, yet which existed on every human hand; there in the office, up on the roof and out on the streets. He went further to say that even within the world of the Fifth Dimension others existed—the Sixth, the Seventh and so on probably without limit!

But of them all, Mortenson had succeeded in neutralizing the curtain, behind which existed the Fifth Dimension. Steckel was astounded as he grasped the magnitude of the facts. He pressed the scientist for more information and got it.

"You see, chief," Mortenson said finally, "our visionary organs behold only the colors of the spectrum. Below and above each individual color is a deeper shade which our eyes cannot perceive because of the high or low vibrations of light, whichever the case may be. Now the Fifth Dimension lies above the violet shade. Physical science calls this 'color' the ultra-violet. It is a vast, invisible realm in itself, as invisible to us as our own world is to the creatures who inhabit the Fifth Dimension. It is invisible because of the rapid vibratory oscillation of its light scale. Color or rather ether waves have high or low scales of vibration, too rapid or too slow to be perceived by the naked human eye. On each of these scales lie vast realms, some teeming with life of primitive or advanced state, others absolutely blank because of adverse electronic conditions.

### Transferring the Body to the Fifth Dimension

"TAKING the scale of light offered by the ultra-violet as my field of study and experiment, I succeeded in neutralizing the veil of invisibility, that enshrouds the Fifth Dimension. In doing this I overcome the vibrations of light and electrical current. By applying these oscillations to the physical body through the instruments I devised, and which, incidentally, were stolen from me last night, I was able to transfer my own body from our world to the realm of the Fifth Dimension. These vibrations and electronic movements, when applied to the physical body, cause it to become invisible at once and automatically transfer it to the particular scale to which they are aligned.

"By adapting certain prismatic lenses to my eyes, I was able to visit and to perceive this ultra-violet world and all that exists in it within range of vision. You can imagine my amazement when I beheld a world of solids, that was tinted with a pale violet shade, as the earth is with gold at times of sunset. And my apparatus had placed me right in the midst of death and destruction! The Fifth Dimension teems with primitive life; is inhabited by strange creatures, armed with primitive but deadly weapons.

"That was my first venture into the realm of the Fifth Dimension, my dear Chief. And in my horror and fear I transferred myself back to our own world before the creatures recovered sufficiently from their surprise at seeing me, to attack, which they undoubtedly would have done to my disaster. I was afraid to venture there again, alone, and was working on a new form of weapon for defense, when I was held up and robbed of the instruments that made my visit to the ultra-violet realm possible. This phantom bandit is undoubtedly the very man who stole my apparatus, but for the life of me, I cannot understand how he manages to enter the Fifth Dimension and remain for any length of time, without being destroyed by the creatures who live there!"

Chief Steckel eyed him strangely, perhaps a trifle incredulous in his expression.

### Hiding in the Fifth Dimension

"YOU really mean then, Mortenson," he said softly and in a baffled tone, "that this vanishing killer-bandit can rob and murder and hide behind a curtain of invisibility beyond the reach of the law?"

"That gives us exactly his reason for taking my apparatus," said the scientist, "and obviously for what he is doing now, hiding somewhere in the Fifth Dimension, safe from human apprehension!"

"Good Lord, man!" Steckel exploded suddenly. "Does that mean we'll never have a chance to grab him?"

Professor Mortenson smiled shrewdly. "You'll never lay hands on him, Steckel," he said flatly. "Unless you give me your aid in carrying out a plan I have already devised. Even then it may be impossible, but we can try. Meanwhile this criminal is going to go about his way killing and robbing at will and may, at this very moment, be in this room!"

Steckel's face paled and his eyes flashed. Mechanically he glanced around as though searching for some imaginary eavesdropper. But Mortenson quickly placed him at ease.

"He could not hear a thing from this world if he is hiding in the other," he said. "Sound is similar to light in that respect. There are sounds too high or too low in pitch to be heard by our limited auditory capacities. The desperado would have to be right here and visible to hear what we say. He may watch every move I make now, for he warned me that I would be a dead man, the first attempt I made to follow him into the Fifth Dimension."

Steckel's eyes continued to flash apprehensively. "Why, the devil might have designs on my life," he said weirdly. "He might pop up at any moment, kill me for the good of the underworld, and vanish again! Or he might kill you if he thought you could duplicate the apparatus!"

Mortenson scrutinized the chief thoughtfully.

"He doesn't, Chief," he said seriously. "At least that is my impression. I told him I had no plans of the instruments; that I could not duplicate them. Had

he believed otherwise, I'd have gotten his bullet instead of a crack on the skull."

"But you can duplicate them, Mortenson?" the chief asked eagerly.

Mortenson laughed shrewdly. "Of course," he replied. "I have a complete set of plans. I merely lied to save my neck!"

"You intend to use them, then?" Steckel inquired, leaning forward.

The scientist nodded. Without hesitation he explained his scheme. Steckel listened intently, his eyes narrowed.

"So you see," Mortenson finally concluded, "we can make it mighty hot for the killer if I can get the support of your department. It will be an exceptionally dangerous adventure, but worth . . ."

### A Plan to Catch the Phantom Burglar

"THEN count me in personally!" Steckel interjected quickly. "If we can lay our hands on the phantom bandit by going into the Fifth Dimension after him, it will be worth the chance we take. When you are ready I'll detail eight men to your services. Moreover, the department will stand the expense of duplicating your apparatus . . . ten complete sets. I think it would be well to start immediately, don't you?"

"Right!" ejaculated Mortenson, rising. "But it will taken ten days or more to build the instruments."

Steckel groaned. "Meanwhile the crook will keep on operating!" he said grimly. "The city will be at his mercy until the sets are finished. But I guess it can't be helped."

"No," said the scientist slowly, "it can't be helped."

## CHAPTER IV

DAYS passed swiftly. Gold seemed to have become an obsession with the phantom bandit.

The police were powerless. The crook robbed and killed at will, feeling safe and secure in his ability to swoop down and vanish, leaving the alert minions of the law baffled completely. In three days he had robbed four banks and escaped with his loot. He left death and fear behind him on each occasion. Then for a whole day he failed to appear, but Mortenson felt that he would return. And he did, the following day, to loot the city treasury of a quarter million dollars!

### The Public Begin to Protest in Communications to the Press

Then the rumbling of public protest echoed through the press. Chief Steckel and his department were at once swamped in a vortex of caustic sentiment. But the chief had been under fire before and remained silent, while the press made light of his ability to cope with the underworld forces, particularly with the phantom bandit. He was powerless and knew it, yet he kept secret his negotiations with Professor Mortenson. It would never do to allow that to get out! Before

Mortenson could complete his apparatus, the phantom crook would swoop down upon him and kill him. What then? Chief Steckel was no fool, and he took the bitter dose like the man that he was.

The "Journal" boldly asked the mayor and the police commission to dismiss him. Steckel was called on the carpet and thoroughly denounced. Sentiment and unmerciful nagging were beginning to disrupt the whole department, a fine machine that he had built up for the protection of the people. He smiled grimly through it all, and finally asked for a fifteen day stay of removal. This was granted to him by the mayor despite the protests of the press and the commission. Steckel laughed secretly and told himself that there'd be a change of opinion at the end of fifteen days.

Meanwhile, Mortenson, with five expert opticians and three master mechanics under him, worked doggedly in his laboratory. The laboratory adjoined the scientist's big house where they consumed their meals hurriedly. Mortenson slept with the men a few hours each night in the work-room. Plain-clothes men lurked about the place as a precaution against a raid on the scientist by the vanishing criminal who, they suspected, might have learned through the grapevine system what was going on.

BUT the crook appeared to have taken Mortenson's word that it was impossible to duplicate the instruments that transferred him from one plane to another. He seemed satisfied to add to his already fabulous coffers and let the scientist alone. Perhaps he was afraid of Mortenson, fearing that the scientist might have evolved some means of nullifying the effect of the vibration on the physical body.

Mortenson was elated at his progress, but he had a constant fear of the criminal. Doubtless the man would kill him if he learned that he put his heart and soul into the work of building sufficient apparatus to outfit a squad of police officers who would use them to hunt him down in the mysterious, invisible world. Yet the scientist worked dauntlessly, night and day, feeling more secure with each passing hour as the instruments neared completion.

But to kill Mortenson, the desperado would first have to emerge from behind the veil of the Fifth Dimension. To do this would lay him open for immediate death at the hands of the officers and plain-clothes men, who constantly guarded the scientist. As a further precaution, Mortenson was on the alert at all times. He was armed and ready to defend his life, yet there persisted within him a constant fear that the man would unexpectedly appear and shoot him in the back.

### Ten Sets of Fifth Dimension Apparatus for the Police and Mortenson

Finally Mortenson stepped back and appraised ten complete Fifth Dimension sets neatly arranged on the work-bench. Each set was equipped with a wide metal belt, attached to which was a small, oval box containing



storage batteries capable of releasing vibratory electronic current. Loose wires as thin as thread, with small plugs at the ends, ran from the head-gear. The gear appeared like field glasses connected to a leather helmet. But inside the leather ran meshed wire with bare electrodes exposed to fit snugly against the forehead and the back of the neck.

He trembled with excitement when he realized that at last the job was completed. The plans had been followed to the minutest detail. Nothing could go wrong and Mortenson shivered at the thought of what lay behind the curtain that hid the Fifth Dimension from view. He meditated a moment on the miracle that had prevented the phantom terror from meeting his doom behind the veil. Then his telephone disrupted his thoughts. He went to it at once. His caller was Chief Steckel and his voice trembled fearfully.

### The Police Chief Attacked in the Street

"MY God, Mortenson," he informed the scientist. "The phantom bandit shot at me on Broadway a few moments ago! His slug creased my shoulder!"

"No!" Mortenson was incredulous. "Why would he want to kill you?"

"I told you before, Mortenson," Steckel said, "that he might kill me for the benefit of the underworld! They couldn't buy me off for protection, but they could kill me to intimidate the Department!"

"You mean actually that the fellow shot at you right on Broadway?" Mortenson inquired dubiously.

"He did!" snapped Steckel. "What's more, he took a chunk out of my shoulder! Before he could shoot again a crowd surged around him. He vanished in a blue haze like a ghost!"

"It seems incredible that the fellow would be so bold," said Mortenson, "but will your wound interfere with your going into the other world?"

"I'm not hurt seriously enough for that," responded the chief. "How soon are you going to be ready?"

"Right away, Steckel," said the scientist grimly. "I was going to call you in a few moments. But get your squad and come on over to my laboratory. Everything is ready!"

"Good!" said Steckel. "Take my advice and watch your step! That fellow may try to get you! I think he's been tipped off to our plans!"

"Don't worry about me," said Mortenson lightly. "I'm well guarded."

The Chief hung up the receiver and turned to his staff of assistants. The work was completed and he needed them no longer. His payroll was already prepared and he paid them off. They were dismissed, but as they filed through the door, Mortenson kept his right hand in his pocket. His fingers closed tightly around the butt of an automatic. He was taking no chances on a sudden appearance of the phantom bandit.

For fully five minutes after the last man had gone out of the room, he stood beside the bench and waited silently. Then cautiously he went to the door and

barred it from the inside. With a sigh of relief he turned. A blue haze appeared suddenly before him. It made him blink for an instant. Then out of the shimmering, vibrating mist appeared the form of a man.

### The Phantom Bandit Appears to Mortenson— The Interview—Threats

HAD Professor Mortenson been struck by lightning, he could have been no more stunned or electrified. He recoiled, throwing his arms up as though to shield his face from a blow. Out of the dimming haze emerged a man, looking grotesque in a Fifth Dimensional helmet. In his right hand was a blunt-nosed automatic. Mortenson's face went bloodless.

The phantom bandit stood before him, a cold, significant sneer on his lips. Suddenly he laughed outright, like a man without a soul. The tone of it filled Mortenson with a deep-seated fear.

"You—you've come back!" he gasped, glancing about him furtively like a cornered rat.

The bandit laughed again in a weird display of mirth. Something had changed the man, re-made him entirely, Mortenson thought. He was not the young, dashing desperado that had appeared in the laboratory ten days previously and walked away with the Fifth Dimensional apparatus! This man had a stubble of gray beard on his chin and his clothes were tattered and torn. And he seemed like a man who had gone through hell and left his soul with the devil's imps!

"I said I'd come back, didn't I, professor?" he snapped savagely. "I thought you were telling me the truth, the night I cracked you on the head. But you're a liar, Mortenson!"

"But. . . ." Mortenson began, stammering.

"Shut up!" the bandit cut in with an oath. "You thought you could fool me, didn't you, Mortenson? But you didn't, you sneak! You never stopped to think that I'd have you watched, did you?"

Mortenson winced. His vitals seemed to turn over within him at the cold chill of the killer's now sharp, biting voice. He was getting control of himself rapidly now and he stood in the middle of the floor like a graven image. He could not see the man's eyes, for they were hidden behind the vision cylinders of the helmet. But he could watch the fellow's lips. They were thick and cruel and curled up to the right side of his mouth with almost every word he spoke.

"Then why didn't you kill me a week ago?" the scientist hissed suddenly.

Again the bandit laughed. "I just wanted to see how far you'd go, Mortenson!" he snarled. "I thought I'd let you get your ten sets of apparatus built and then bump you off for your trouble!"

"You're a cool liar!" said the scientist boldly. "There's something deeper than that. You thought you'd let me build ten more sets so you could take them for your pals, eh?"

"You astound me with your psychic powers, professor!" the bandit sneered. "Of course I wanted the

other sets! But I'm going to kill you nevertheless! Isn't it a disappointment to have worked like a dog merely to be killed in the end?"

### The Threat of Assassination

MORTENSON was perfectly aware of that, but his deadly cold features failed to display the truth. He laughed loudly in the man's face.

"You're not going to kill me or anybody else, my friend!" he said perhaps a trifle hysterically. "All I need to do is to call the guards!"

"Humph!" the killer growled. "I fixed every bull on the place; knocked every one of them cold. They're a bunch of lazy flat-feet!"

"Good Lord, man!" gasped Mortenson, sobering. "Don't tell me you killed all those detectives!"

"No, I didn't kill 'em!" the other barked. "But it'll be a month before they get over their headaches! Now listen to me, Mortenson. You're a damned smart man. . . ." he lowered his voice, "and I hate to kill smart men. . . ."

"You don't say!" Mortenson cut in sarcastically.

"Shut your mouth!" the bandit snarled, shoving forth his gun in a significant gesture. "I'll do the talking! You listen until I ask you to speak!"

### Mortenson Faces Death—"Stalling Along" the Robber

THE scientist, resolved that if he was destined to die, he would do so like a man and he realized suddenly that if ever a man faced death, he was facing it now. But somehow, after his first scare, he was not frightened and in a few moments Steckel would arrive with his squad. If he could stall the bandit along until then, well. . . .

The killer's voice diverted his thoughts.

"As I was saying," he said softly, "you're a smart man and I understand you're not very well fixed financially. Now just supposing I'd settle a million on your bank account . . . just supposing I would. Would that make any difference in your life?"

"Just what do you mean, young man?" Mortenson arched his brows.

"Don't stall, professor!" the man ordered curtly. "You know what I'm driving at. In case you don't, I'll enlighten you. I'd like to have a man like you on my side and I'm willing to pay a big price, too. I'm going to organize a bunch of my friends and declare the Fifth Dimension as my inviolate domain. In exchange for your services and help I'd make you my right hand man. With your brains and my guts, we could go a long way, but listen! I don't really need you! I can have those devices duplicated anytime! I'm merely giving you a chance to live. What do you say?"

Bribery! But why would this man try to tempt him? What could he, Mortenson, do that would aid the underworld, unless it was to build Fifth Dimensional apparatus to outfit the phantom criminal's followers?

Mortenson studied the man meditatively, his brain working rapidly. So the fellow wanted his services, eh? Why, when he could have the apparatus duplicated by some corrupt scientist? Or could anyone duplicate them at all, beyond himself? Mortenson's eyes narrowed as he grasped the full significance of the man's bold proposition.

THE apparatus could not be duplicated by anyone but himself! That was why the bandit was so intent upon enlisting his aid to set up a domain of terror in the Fifth Dimension, a domain that would prey unmercifully upon the world in which he now stood. That was Mortenson's conclusion and it was correct. The bandit had tried elsewhere to have the apparatus duplicated and had failed. Without Mortenson's help his mad, daring scheme would also fail.

Mortenson stroked his chin in silence. His attitude was that of a man deciding an important issue in deep thought. The bandit squinted at him shrewdly, a leering smile on his almost diabolical lips. Then Mortenson addressed him.

"What about the creatures in the Fifth Dimension?" he asked curtly.

### Arrival of the Police—Discussion with the Bandit

BEFORE the criminal could make a reply, there came the sound of heavy footsteps from the hall leading to the laboratory from the outside. Instantly the man tensed, jerking his automatic in line with the door. Mortenson's heart pounded like a triphammer. Chief Steckel and his men had arrived. But were they in time?

The phantom bandit backed slowly toward the work bench on which lay the ten completed sets of Fifth Dimensional apparatus. A heavy knock rattled the laboratory door. The bandit squinted at the scientist.

"Well, what about it, Mortenson?" he hissed coldly. "You with me or not?"

The scientist winced as the man levelled his automatic at him.

"I haven't had time to decide," he replied in a quivering voice. He glanced at the door. It was barred, but through it he could hear the voices of the men outside.

"Then I'll be generous with you and give you twelve hours to make up your mind," he jeered. "Meantime I'm going to take care of these ten sets of apparatus."

A WAVE of fear and desperation went over Mortenson as he realized that the man was going to make away with the Fifth Dimensional devices. He felt an urge to cry out to Steckel to smash down the door, but the bandit's pistol prevented it. In his pocket lay his own automatic, but it was useless now. If he made one move to draw it the bandit would undoubtedly kill him without a qualm.

Suddenly he seemed to calm. He overcame a wild roving of his eyes and settled them on the bandit. Then slowly he advanced toward the man, speaking in a

lowered voice. "You say there's a million in it for me?" he asked in a half whisper.

The bandit nodded and relaxed. "Yeah!" he said quickly.

"And more if you play ball with me."

"How do I know you will not double-cross me?" Mortenson asked, advancing carelessly.

"When I give my word, I don't go back on it," the bandit replied with a perfunctory shrug. He lowered his automatic a trifle, impressed by the scientist's interest in his proposition.

"All right!" said Mortenson decisively. He halted within four feet of the bandit and jerked his thumb at the door. "Speak low," he said, "or they'll hear you. Now, it'll take twenty thousand to start building apparatus on a big scale. . . ."

#### Mortenson's Attack on the Bandit

"THAT'S fine," the bandit nodded, pulling a roll of bills from a pocket and glancing at it carelessly. By sheer force of desperation, Mortenson lashed out savagely and brought both hands down on the man's gun-arm. Instantly the automatic spat like a whip-lash and then clattered to the floor. With an oath he swung around at the scientist, his roll of bills scattering.

Screaming at the top of his voice, Mortenson lunged himself bodily at the phantom bandit. His arms caught him around the waist. They fell to the floor, Mortenson yelling at the officers outside.

"Steckel!" he screamed wildly. "Break down the door! BREAK IT DOWN!"

A savage foot caught Mortenson on the chest and sent him spinning. There was a rending crash of splintering wood and into the laboratory rushed Steckel and his men. Mortenson stared at them in a daze.

"Get him, Steckel!" he shrieked. "He's lying on the floor near the bench!"

Automatics drawn, the officers glanced toward the bench. Above it hovered a pale blue haze that shimmered like a curtain of smoke. From it came a venomous curse that all could hear before the phantom bandit vanished completely into the Fifth Dimension.

"I'll get you for that, Mortenson!" the bandit snarled. "You dirty double-crosser! I'll get you if it's the last. . . ." His voice trailed off into nothing as he penetrated the veil between the two worlds.

"Did you hear that, Steckel?" Mortenson gasped, rising.

"What's it all about?" Steckel grumbled, mystified.

"The phantom bandit!" exclaimed the scientist. "He was in here . . . you heard his voice! I tackled him in an effort to hold him, but he kicked me and got away."

Mortenson rushed to his work bench. On it lay the untouched apparatus. His mad lunge at the bandit and the appearance of the officers had thwarted the desperado's intentions of making away with them. The scientist gave a sigh of relief and turned to Steckel.

"Let's get started, chief," he said urgently. "There's no time to lose. The bandit is somewhere close and

we must catch him. My life isn't worth a counterfeit penny now!"

#### CHAPTER V

WITH Chief Steckel and eight grim-faced officers including Barton and Riley lined up, Mortenson hurriedly gave instructions on the operation of the Fifth Dimensional apparatus. Each man wore a set, giving them the appearance of gargantuan creatures of another world, with the projecting eyes, tight-fitting helmets and wide metal belts. They looked like men from Mars, but Mortenson had no time to make such observations or any comparisons.

He had made some important improvements over the first set of apparatus taken by the phantom bandit. The new ones were equipped with a small panel that hung down over the chest. On this were three buttons arranged in numerical order so that the wearer could press number one and start the electronic vibrations coursing gently through the body, and on down to number three which actually neutralized the veil of invisibility between the two worlds. This arrangement, he thought, made the apparatus fool-proof.

#### The Police in Fifth Dimension Suits

FINALLY the scientist donned his own set. As he swung the lenses before his eyes he glanced along the line of men. Each officer held an improved model sub-machine gun capable of firing a hundred rounds of ammunition at one loading. They were short, squat weapons with cartridge disks on the barrel just before the stock grip. A grim set of men, he concluded, who would stop at nothing to apprehend the desperado who struck without warning like a *fer de lance*, the venomous snake, *Lachesis lanceolatus* of Mexico and South America, leaving death and terror on his invisible trail.

"Are you all ready, men?" Mortenson inquired suddenly. A murmur of assent ran along the line. "Remember what I told you . . . in event any of you are wounded in the world which we are now to enter and want to transfer yourself back here in a hurry, press all three buttons simultaneously. The vibratory reaction will probably knock you out for a moment, but it will not harm you. Take note of your surroundings when we enter the Fifth Dimension so that you can mark the spot for the return to this laboratory. Now, gentlemen, place your fingers on the control buttons and press number one. Allow a count of five seconds to pass, then press number two and repeat the operation until after number three has been pressed. Ready! Press number one!"

A FAINT throbbing surged through the ten men as they simultaneously pressed the first button. The laboratory went aglow with the pale blue luminosity. Then the throbbing intensified, whirring like the wings of a honeybee. To an observer the men might have appeared to vanish slowly from the room



in a thin vapor of blue. The electronic current played around them in a shimmering curtain, the electrodes pressing against their flesh creating a slight burning sensation. Their muscles seemed to jerk as the vibrations intensified. As they pressed the third button the throbbing became a high-pitched whine, rising in tone until it almost screamed.

Each man felt a sinister dizziness as he left the laboratory. After a moment of nausea and the sensation of falling into an abysmal pit, they felt no other reaction to the rapid vibrations of the apparatus. But the current continued to whine, sending the oscillations throughout their bodies and weapons with unceasing force. Gradually the weird, spectral world of the Fifth Dimension unfolded itself before them. From their eye-instruments shot twin jets of violet light, that seemed to illuminate a jumbled mass before them. Slowly the terrain of the Fifth Dimension assumed definite shape. It was a rolling, uneven world, covered with a tall violet lush and spectral forests of deep blue. No tall mountains were visible; rather was the Fifth Dimension a place of undulating hills, rolling and rippling as far as they could see.

#### In the Fifth Dimension

JUST rimming the horizon stood a ball of violet flame. Mortenson knew it was the sun, but he was not certain if it was rising or setting. Its heat made them uncomfortable; for it seemed to bite into them like acid at first. Gradually, as the strange world became clearly defined, they grew accustomed to the force of the violet disk and after a few moments it had risen above the horizon. They had entered the Fifth Dimension at sun rise! On their own world it was well past noon.

Tensed almost to the snapping point, each of the ten men stared about them in search of the horrible creatures Mortenson had told Steckel existed there. Suddenly they discovered that they were actually standing in swaying lush that reached to their shoulders. This came upon them as their eyes began to observe their immediate vicinity. The sudden change of environment had caused them a mild far-sightedness, but now they could see clearly on every side. The lush rolled and swayed like a sea of earthly wheat-stalks in a light breeze.

Mortenson realized in a moment that they would have to mark the spot or their inevitable wanderings would cause them to become hopelessly lost. He yanked his kerchief from a pocket and tied it like a flag to a tuft of the taller plants. It waved feebly in a cool breeze. He turned to Chief Steckel.

"I think it best that we string out in a line, Steckel," he said, his voice sounding microscopically low. "We ought to come upon the phantom bandit's trail in this vicinity. But be careful! He must be desperate and will shoot on sight."

Steckel gave his curt orders. The officers stretched out in a long line. The chief and Mortenson went forward side-by-side with Barton and Riley flanking them.

The line swung gradually in a circle around the scientist's handkerchief which acted as a centre. The lush seemed unbroken, being so closely grown together that even a small animal would have left visible indications of its passing through it. They continued onward until suddenly the officer at the far end of the line emitted a triumphant yell. Immediately the others surrounded him to find the lush broken in a narrow path through which the desperado had gone. Feet had trampled down one spot. The trail led away from it. The trampled lush in the one place gave them the impression that the man had popped up out of the yielding soil to go marching away.

#### The Trail of the Bandit in the Fifth Dimension

BARTON suddenly stooped over to pick up an object. He handed it to Chief Steckel. It was a black-tipped match-stick.

"We're on his trail, chief," he said excitedly. "He lit a smoke here and tossed the match at his feet!"

Steckel gave a sibilant whistle. "Damned if we haven't traced the snake to his hole!" he snapped. "I hadn't much stock in this scheme, but it looks like his trail, all right. Let's follow it, strung out. He might be hiding in the grass and a line will bring him out."

He started forward rapidly, eagerly. Mortenson grasped his arm.

"Not so fast, Steckel," he warned ominously. "We're not in our own world, but in one unknown. This tall lush might harbor anything. I have no stomach for running into a wandering band of Fifth Dimensional beings."

Steckel fell back instantly. With Mortenson beside him he followed the trail, the others strung out on either side. Slowly they went on for what seemed hours. It was hard work for them to go through the lush. It was as tough and fibrous as dried coconut husks. Had it not been for their heavy clothing they would have been cut to shreds in no time. Their hands suffered from the ordeal, but it could not be helped. They had not prepared for such conditions and it was too late to go back. They were at last on the trail of the phantom killer. Only death or inconceivable terror could drive them from it. The man must be apprehended at any cost and each had secretly resolved to see the thing through to a finish. Yet they derived a certain sense of pride from the fact that they were among the first humans ever to tread this strange, blue-tinted world. Police history would long remember them for their daring.

SUDDENLY there was a violent commotion in the lush not far ahead. Abruptly the intrepid man-hunters halted in their tracks. Machine guns were snapped forward. Then a terrifying shriek rent the stillness. Mortenson's blood chilled and he crouched instinctively. The others did likewise from natural instinct, weapons aimed straight ahead to sweep the wall of vegetation with a deadly fire.

For a moment thereafter the place was as silent as a

tomb. Then another shriek came from ahead. Tensely the men waited and then the thing appeared, head and shoulders above the swaying, rolling sea of lush. Barton let out a feverish yell and snapped up his gun. It rattled with a staccato snap. The men stood erect to see an incredible monstrosity staring at them through a triangle of eyes that seemed to spit blue flame.

### A Monster of the Fifth Dimension World

THE monster of the Fifth Dimension was like an awful nightmare. It had a long, reptilian neck, at the end of which was a venomous-looking head. Its eyes, as large as saucers were deep set in the forehead, like the three corners of a triangle. From its neck spurted streams of greenish-blue liquid, spilling through the wounds made by Barton's missiles. The enormous head was studded with unnumbered horns and waved back and forth, a long, purple tongue darting from between fang-filled jaws. With a sudden lunge the beast moved toward the men.

"Shoot!" Steckel bellowed, aghast. "Don't stand there like a squad of statues! Shoot!"

The machine guns went into action with an ominous deadliness. The first barrage literally clipped the monster's head from its body. The beast leaped high in the air and fell with a thud, to writhe in the throes of agony and death. Its long, reptilian tail lashed out, beating madly. Finally the creature lay still and the men went cautiously toward it.

The beast had the legs of a centipede, but thick and powerful. The feet were four-toed and savagely clawed. Mortenson was astounded to find it a cross between the reptile and the insect and he promptly named it a *serpenta insecteana*.

With a shudder he turned away. The grim-faced man-hunters continued to follow the trail, wondering silently how the phantom bandit had managed to escape the terrifying beast. But the man had had at least a half-hour start on them and Mortenson concluded that the creature had just happened along.

Mile after mile they plodded on, gripping their guns. The phantom bandit, it seemed, had covered mileage at a rapid rate. Finally they entered into a large clearing at the edge of a spectral forest. Weird trees with thick, leafless branches stood before them, but in the clearing they found traces of a fire. The coals were dead and cold.

"The bandit must have stopped here several days ago," said Mortenson to Steckel. "I think he went on into the forest this day. Let's look for the trail at the edge of the trees."

THEY discovered the trail quickly. It continued onward through an aisle of trees. They followed it single-file now, for the growths were too thick to be penetrated on the sides. The path seemed to be well-beaten but almost every step of the fleeing desperado was marked by the outline of his heels in the yielding soil.

There were other tracks too, that interested Morten-

son, causing him considerable apprehension. The footmarks of the Fifth Dimension dwellers were clearly defined on the trail. The marks were broad, disclosing the outlines of feet that were like those of a monster goose.

Eventually they emerged from the forest. It proved to be merely a mile-wide belt of trees. Now they found themselves in the tall lush again. The trail continued through it. The lush was well-trampled now as though a large party of men had gone through.

After another hour of steady walking, they encountered a series of trails branching from the main path. They paused, baffled.

### Following the Trail—Confusion

LOOKS like we're getting near some town or encampment, Mortenson," Steckel suggested. "Do you think the desperado could have gone on ahead to mingle with the creatures you say exist here?"

"That," said the scientist blankly, "I cannot answer. It is hard to believe, however, that any human could stand on friendly terms with such savage, such grotesque beings. The ones I beheld were indeed savage, though my imagination might have made them more so than they are."

Steckel spat at a large, gargantuan beetle that ambled across the trail. "Which one of these trails do you think we ought to follow?" he asked bluntly.

"I'd follow the center one," said Mortenson, studying the trail closely. "Look! There's a heel print."

### CHAPTER VI

DOGGEDLY they went on. Here and there the man's foot-prints showed clearly, but the others were likewise defined. Mortenson wondered if the bandit had been finally captured, and was being taken now to some Fifth Dimension village. But his thoughts were diverted suddenly, when the men before him halted. They had come upon another clearing, one that sloped down the side of a rolling hill. Well-worn paths criss-crossed it and in the center stood a squalid town with primitive shacks, closely packed together. Off to the left browsed a score or more of strange beasts. Mortenson squinted at them. They were of the same species as was the one which their bullets had destroyed back in the sea of lush! As though sensing the strange visitors, the beasts lifted their heads, eyed them for a moment, and then ambled away.

### The Fifth Dimension Town—The Bandit in His Lair

SOMETHING suddenly whined past Steckel's face. It was followed by the dull report of a gun. Instinctively they dodged back out of sight. Steckel looked at Mortenson. His face was white and bloodless.

"He's in that town, Mortenson!" he cried. "He's there!"

"Undoubtedly," replied the scientist, gripping his automatic tightly. "He took a pot shot at us. I saw a wisp of smoke from one of the shacks!"

"Then we've got a fight on our hands, chief," said Barton grimly. "And he's got friends. Let's rush. . ."

A bullet clipped a blade of lush beside his face and he flattened himself. Then came another report. Barton lined his machine gun on the town, but Mortenson held his arm.

"Don't waste bullets, Barton," he advised. "Wait until you see something to shoot at; then let 'em have it."

That *something* was soon to appear, for hardly had Mortenson finished giving his warning to Barton than a score of the strange beasts raced from the back of the town and galloped toward them. Running like mammoth centipedes, reptilian heads high, long tails dragging behind them, they came. The men watched, awestruck. Then a yell from Mortenson broke the spell of awe, that had held them motionless.

"Here they come!" he bellowed, snapping up his automatic. "Look on their backs!"

On each beast rode two or more Fifth Dimension dwellers! They held primitive bows in their hands and had quivers of arrows hanging across their backs. They looked almost human, astride the racing beasts, their long, skinny legs dangling, equally thin arms of which there were four to each creature, waving above their grotesque, egg-shaped heads. They were dwarfed by the size of the monstrous mounts which needed no urging. As they neared the astonished man-hunters, they appeared all arms and legs. Their bodies, blue in color, were short and thick, like the fat belly of a great ape. Their eyes protruded from their faces and waved like the feelers of a snail. And they were equally as loathesome.

"Good God, Mortenson!" Steckel groaned. "We're outnumbered fifteen to one!"

The scientist shuddered, his eyes bulging with terror. "We can't lie here and let them run us down!" he mumbled tensely. "Order your men to shoot their mounts! That'll stop them for the present!"

Steckel stood up impulsively. His head and shoulders rose above the lush. His men lay around him, watching the approaching horde through the vegetation. Before he could give an order, something tugged at his sleeve. A dull report followed and a wisp of white smoke floated from the back of one of the running monsters. Steckel sank with a groan, his left arm feeling numb.

"He got me!" he said dismally. "The killer!"

"Hurt bad, Chief?" Barton quizzed, excitedly.

#### The Battle with the Fifth Dimension Cavalcade— The Bandit

STECKEL shook his head. "Creased me, Barton," he replied. Then he yelled at his men. Instantly the lush at the edge of the clearing became a hornet's nest. The machine guns rattled dully. Mortenson's pistol cracked and his target pitched to the ground. A

half-dozen beasts reared up, screamed hideously, and rolled over, spilling their riders headlong. The latter dodged behind the prostrate beasts and showered the ambushers with a hail of arrows.

A shaft buried itself in Riley's chest. He emitted a shrill death cry and rolled over, clutching frenziedly at the arrow. Steckel picked up the detective's machine gun and sent death into more of the running beasts. But there was no halting their mad rush. They continued on toward the men in the lush and the creatures on their backs were either tremendously courageous or too stupid to sense their own danger. They stuck to their mounts until they fell. The clearing was littered with dead and dying. Then the last of the beasts went down under a solid barrage of bullets from the machine guns. It was literally torn to pieces. The riders were buried under it as it rolled over on its back.

Mortenson had a glimpse of a human being running back toward the town. Instantly his automatic went up, but Mortenson had never been a marksman. He emptied his gun at the fleeing desperado and groaned as the man vanished from view. He turned quickly to Steckel. The chief was shooting wildly at the dead beasts hoping to down some of the hideous creatures shielded behind them.

"STECKEL!" Mortenson called to attract his attention. The chief looked around, quizzically. "The bandit just ran into a shack to the left," the scientist continued. "I saw him! He didn't have on his Fifth Dimensional apparatus! We've got to get him before he puts it on and vanishes back to our own world! What do you say we rush the town?"

"We'll be killed, Mortenson!" Steckel declared excitedly. "Those devils will run us through with arrows, before we get half-way across the clearing!"

"There are only a few of them left," insisted Mortenson. "We can make it. Its now or never, Steckel."

Steckel eyed him weirdly for an instant and then spoke to Barton.

"We're going to rush the town, Bart!" he said. "Call the men together and let's go!"

"Okay, Chief," said the detective. "We got 'em on the run now!"

He yelled to the men. Two of them were sitting on the ground, fumbling with their apparatus. They were wounded. Riley was dead, his face twisted in a grotesque mask of death. As the remaining men stood up, the two wounded officers vanished as they transferred themselves back to their own world.

With Steckel and Mortenson in the lead, they started across the clearing. A hail of arrows caused them to crouch.

"Split!" yelled the chief. "Barton, you flank the devils and wipe them out!"

Barton ran off to the right to get in the rear of the creatures, who were hiding behind a dead beast. In a moment his machine gun rattled. The others saw several skinny-legged beings leap into the air. They made no sound as they fell back, dead. The attackers had been wiped out, leaving the way clear.



MORTENSON, lying on the ground close to a dead dweller of the blue world, appraised the creature quickly. He was a hideous specimen of a strange race. His face was round and his protruding eyes hung limply in death. His mouth was loathesome and was half-open, revealing jagged teeth like those of a deep-sea fish, the barracuda. Around his neck hung a fibre cord to which were attached three silver dollars.

"So that's how the bandit got into the graces of the Fifth Dimension people," he reflected with a nod. "Gave 'em presents same as we do in Africa or Borneo to win respect from the natives."

Steckel's voice suddenly drew his attention. The chief stood erect, gripping his gun tightly.

"Let's go, boys," he said quickly. "The place is clear now and we've got to get that killer!" He turned to Mortenson. "Which shack did he enter, Mortenson?"

"The big one at the left," replied the scientist.

"All right," said the chief. "Now lets spread out and surround it."

#### Surrounding the Bandit

THE violet sun was standing well west of its zenith. It seemed to cast grim, malignant shadows over the realm of mystery, death and terror. As they went quickly, but cautiously, toward the town, Mortenson felt something sinister in the terrible silence of the place. Surely they had not wiped out its citizens, leaving the phantom bandit there alone to reckon with fate. He decided that this was the case; that the town was merely an outpost, meagerly populated by roving bands of Fifth Dimension warriors. Perhaps, too, it was the headquarters of the vanishing bandit! He wondered if it was.

Then Steckel caught his eye and motioned to him. Instantly the chief broke into a run, closing in on the shack. It stood somewhat isolated by a narrow, crooked street. Mortenson followed him and they gained the shelter of the wall. Strangely, no sound came from the shack. It seemed as deserted as the town itself. The other men surrounded it completely, but Steckel and Mortenson were nearest to its single door.

#### Back to the Other World of Three Dimensions

CAUTIOUSLY they peered in. It was a place of gloomy shadows, but on the far side Mortenson caught a glimpse of a shimmering curtain of blue. He knew what it was instantly. The phantom bandit was transferring himself back to their own world, leaving them without further resistance!

With a bound the scientist was in the shack. His pistol spat twice into the blue haze. He turned to Steckel.

"He's going back to our world, Chief!" he cried. "Call your men and we'll follow him!"

While Steckel bellowed to his men, Mortenson glanced around the shack. On the hard-packed floor lay piles of silver coin. Empty bags littered the floor

in one corner. Stacks of currency of all denominations were piled neatly to one side. The phantom bandit had certainly made use of his ability to strike and vanish. Untold wealth lay on every hand in the unclean hut, but it would have to remain there for the present. He withdrew his fascinated eyes from it, as the men filed into the room.

"The crook has just returned to our world, men," Mortenson informed them crisply. "We're right on his trail! Press the first two panel buttons together; then press the third. We'll find ourselves within arm's reach of the killer. Be ready to shoot him on sight! Ready? Here we go!"

Instantly the shack glowed with the peculiar pale blue luminosity cast off by the electronic apparatus. As one the men vanished, wondering where they would next appear. Within five seconds vague shapes began to dance before them. Then out of the jumbled maze of dancing, tottering forms they beheld familiar buildings. The dull rumble of traffic reached their ears above the drone of the apparatus. They emerged from the Fifth Dimension to find themselves standing directly in the middle of an intersection. The traffic was at a standstill while the corner signals changed.

#### Death of the Phantom Bandit

INSTANTLY the crowds scattered. Women screamed and fainted. The traffic cop went into action, sensing something was going to happen, and held up the traffic. The bandit's pistol cracked. Mortenson felt a stab of pain in his right shoulder. He dropped his automatic and sagged to the street, a black nausea swept over him. He felt himself dropping into a yawning hole as a machine gun rattled almost in his face. Dimly he saw Barton standing over him, his machine gun spitting flame and death.

For an instant the nausea left him, but the pain in his shoulder increased. Dazedly he looked around. A man was sagging limply near the curb. He was covered with blood and seemed dead on his feet. Then Mortenson recognized the phantom bandit as the man slumped from the curb and fell face-forward into the street. The pain in his shoulder intensified. He fainted.

When he regained consciousness, Chief Steckel and Police Surgeon Wagner were standing beside his cot in the receiving hospital. After a moment he spoke:

"Did you get his corpse, Wagner?" he inquired brokenly, his brain still foggy from an anesthetic.

Wagner grinned. "Dead men are sent to the morgue next door, Mortenson," he said. "They've kept a slab ready for the Phantom Bandit. . . ."

"But is he making use of it?" Mortenson cut in anxiously.

"Hell, yes!" replied Wagner. "He's been sleeping on it for two hours! Now be quiet. Sleep if you can. You're not badly hurt, except for a perforated shoulder-blade."

Mortenson felt relieved for the first time in weeks, and promptly went to sleep.

THE END

# Author's Adventure

By Arthur L. Bain

"ADVENTURE," said the successful author, "should be lived before it is written."

We were sitting around the little club room just after the business meeting, and the conversation had of course closed around Pete Hearn's latest short story. Someone had asked Pete where he got his ideas, and Pete, always willing to talk of himself, had launched into what might be called a lecture on his success. Pete *was* an interesting talker, and one forgave him his usual song of praise when his monologue was spiced with interesting anecdotes of *other* people. Pete had just told us how to write short stories, as though there were the slightest possibility that one of us duffers might get the urge. Since we're all dyed-in-the-wool business men whose romances consist of the wife, the kiddies, and a flower garden, with perhaps a drop of home-made wine occasionally, the lecture, as a lecture, didn't greatly appeal to us.

"But look here, Pete," Harry Dallas protested. "Practically all of your stories are horror tales, murders and mysteries. And we know the most horrible thing that ever happened to you was that you missed the five fifteen one night and had to take a taxi home."

"Nevertheless," Pete answered in his most pompous manner, "I live every one of those stories first. You'd be surprised at the number of times I've murdered each one of you fellows."

"Murdered us?" I gasped in astonishment.

"Exactly. For instance, Arnold, when you were reading the minutes of last week's meeting to-night, I noticed that that boar's head over your desk had slipped a little. Immediately, in my mind, I decided that you would have to return to this room after we had left, perhaps to steal Maty's priceless collection of cavalry pistols. The boar's head fell on yours, the tusk pierced your brain, and you were found dead the next morning by the porter. Another mystery."

I looked up at the boar's head, and shuddered. Decidedly, it was not a pleasant way to die, and I could see that the damned thing *had* slipped a trifle. "And do you mean to say," I asked, "that by mentally putting your friends through such accidents and ordeals, you create the stories and then write them up?"

"That's it. Of course it would be lots better for the things to actually happen. I don't mean, you know, that I'd like to see you fellows all murdered just to give me material for stories." Pete was trying to be humorous now. "But you can write up an adventure a lot better if you actually see it or are in it. Without that, it isn't just a case of sitting down and slapping out a lot of words. Before I can do that, I've got to construct the whole thing in my mind, and most im-

portant of all, I've got to get excited about it myself. And I don't think anybody could get upset over the murder of someone who doesn't exist; therefore, when I want a murder or a suicide, I get you fellows to do it for me."

He smiled triumphantly, but I could see that the other men were as nettled as I was. Of course, what went on in Pete's head couldn't harm us, but nevertheless, it is uncomfortable to learn that a fellow club member, sitting alongside of you, smoking the same brand of cigars, may be plotting your death in any number of ghastly ways. If Pete wrote love stories, now, romances with lovely ladies in the South Seas, I bet we'd all be willing to figure in the tales, but this murder business was not so hot.

"Well, all I can say is that it's a hell of a way to mistreat us," said Maty. "You can pretend all the adventures you want, so far as you yourself are concerned, but I'd just as soon be left out of the horrors if you don't mind, even though they aren't actual."

Pete snorted. "Nonsense," he said. "After all, the next best thing to actually living an adventure, is to create it in your own mind, and it makes it much more realistic when you place people you know, in the middle of the adventure." Seeing our blank faces, he expanded, became more animated. "For instance," he continued, "did any of you see Crawford standing at the French window here tonight, just before the meeting? He's worried about something, I think. Anyway, he stood over here like this—" Pete walked to the window through which came the faint hum of the street below—"and I thought, Crawford's worried about something. The ghost of a wicked past is rising up from the grave, and he is haunted by a great Fear. Fear, you see, is with a capital letter. Then I thought, he's thinking of his past misdeeds, when suddenly he hears a noise behind him. He swings around suddenly"—Pete screwed his fat body around in an attempt to depict a startled fawn—"and sees something large and vague approaching him. He draws back in horror as he feels a damp hand touching him. His foot slips!"

Pete Hearn's story ended in a wild scream as his foot actually slipped on the polished floor. His arms whirled like windmills as he attempted to recover his balance. Then we caught a last glimpse of his terrorized face, and the window was empty. From the street below came a horrible sound of something soft and heavy landing. An ugly, grisly sound. A sound, which found its echo in the sharply drawn breath of the men who had seen Pete Hearn actually live—and die—an adventure, THE ADVENTURE of which he would never write.

THE END.

# Universal Merry-Go-Round

By Roger Bird

*THIS story, depicting the escape of two of the characters from being burned alive in the atmosphere of the earth as they are resting on a meteorite, will hold you in suspense to the very end. It contains the personal element so often missing in stories of this type and will be greatly enjoyed by our readers.*

Illustrated by MOREY

**T**HE third of March, 1946, marked the end of my first two years of work as an apprentice of Professor Witherton, the greatest scientist that I have ever known. We worked late that night and I remember that the clock on the "lab" desk pointed its radium painted hands to eleven five when I finished with the last experiment. A dark night lowered outside; and through the window that stood open to clear the room of the poisonous gas that had leaked out of our chlorine generator, a sharp wind made its way in and sent restless chills along my spine.

I was not surprised when the Professor came over to the sink, where I was washing the apparatus and putting it away. I can see him now as he spoke and in his eyes was a look of almost boyish eagerness.

"Max," he said to me, "when you finish, I'd like to have a serious talk with you. Just see that everything's put away and the light is out. Then come upstairs to the observatory tower. I've got something I want to show you, something that you can see only through the giant telescope."

With that he left me, wondering. In the silence of the laboratory, I could hear his footsteps as he climbed the stone stairs that led up into the tower. Then, as the sound died out, I could hear only the dripping of water from a leaky faucet. A great chemist, Professor Witherton, and a great astronomer.

When I joined him in the tower he was studying a chart that hung upon the wall. As though in a deep reveries he was drawing his pencil in an elliptic curve. Presently he brought it to a certain fixed point and made a tiny X.

"**T**HERE, Max. There it is," he spoke with a touch of excitement in his voice. "See, there is where the new planet lies."

"What new planet?" I asked, a little surprised.

"The one that I discovered a year ago, but kept a

secret until now. At last I am ready to disclose my find."

"What, you kept it to yourself for a whole year? Weren't you afraid that someone else would discover it and get all the credit?"

"No," he said, "I had my reasons for keeping still."

We turned to the giant telescope. With a few adjustments he set it to register the light rays that seeped in from that distant planet. I looked and saw it, a mere speck even through those monstrous lenses.

"How big is it?" I questioned.

"Just about the size of our earth, a trifle larger, perhaps. It is difficult to determine at such a vast distance."

For a while he stood musing, a quizzical smile on his wrinkled face. At last he turned to me and said in a quiet, even voice, "Max, I'm going to take a trip up there to see what that new planet is like. I thought maybe you would like to go with me."

His words almost took me off my feet. I stared at him. If he had been any other man than Professor Witherton, I would have concluded that he had gone crazy. But as I looked into those deep-seeing eyes of his, I knew that his mind was never more rational than it was to-night.

"Here," suggested the Professor, "let's take chairs and sit beneath the skylight, where we can see a big strip of the heavens."

## Professor Witherton Proposes a Trip Into the Unknown

**I** TOOK my chair, wondering what was coming next. Professor Witherton seemed more reminiscent than usual; he spoke: "When I was just a freshman way back in my college days, I had an undying curiosity to know what was on the other planets. Are they inhabited worlds like our own, or are they vast lifeless balls of dirt? Now at last I'm going to find out. Do you think you would care to go with me?"





*We felt our feet leaving the little planet; and when the air straightened out the folds of our parachute, we felt ourselves floating gently down, while the meteor shot ahead of us in a flaming streak of fire and melting rock.*

"I'd like it first rate," I told him. "But wanting to go and going are two different things. The question is, how you are going to get away from this world. Then after you've made the hop, how are you going to get back home again. I'm sure I'd get more of a kick out of the trip, if I knew the vacation wasn't permanent."

The Professor laughed in an indulgent manner at my stupidity. Then he put it up to me, "Well, what do you think would be the best way to do it? What kind of a flying vehicle would you invent?"

"A rocket would be the easiest," I told him, "something that could be shot through space at a terrific speed."

He shook his head, "No, it wouldn't work. I'll tell you why. To begin with, it would require too great a force to overcome the gravity of our world. Then if we could overcome that gravity there are two catastrophes that would inevitably follow. First, the shock that sent your rocket hurtling into space would be so terrific that it would be like an earthquake for many miles around the place where you made the take-off. Second, the friction between the rocket and the air would burn you and your machine to ashes."

"BUT how, then?" I insisted.

Professor Witherton drew his chair closer, "I made a strange discovery the same night that I sighted the new planet. It was in the early hours of the morning. I had been searching the skies all night. Naturally, when I found the planet that I had been hunting for, and the strain of the long search was over, I felt almost exhausted. So I just leaned back in a chair and dozed off to sleep.

#### Professor Witherton Tries to Sleep

"BUT a man can't go sound asleep just after he has made a big find. So in my half-wakeful dozing, as the stars shone in a brilliant multitude, in the back of my head a strange idea came to me.

"In an instant I was wide awake again. I rushed to the blackboard at the corner of the tower and commenced to figure. It wasn't a dream. It was real. The figures harmonized with the idea. I knew then that at last I had hit upon the secret, the key to the other worlds that glitter up there in the heavens out of our reach."

The scientist got to his feet and went over to the window. For some minutes he stood leaning out into the night. Presently he came back.

"I am a little excited," he told me. "I like to feel the touch of the earth's wind on my face, for when we leave for our long journey it may be some time before we see and feel things as we do to-night."

"But, tell me," I urged. "Tell me the great secret."

"Oh yes," said the Professor. "Well to get back to the story, I might say that throughout the universe there is an unknown something that scientists have named ether. But naming it was about as far as they got. They could tell nothing about it, for it had no weight and there seemed to be no way to measure it or to find out what it was like. But that night there

in the tower, I stumbled on it. You have heard a great deal about the relativity theory. Well, my idea is somewhat related to this theory. All the universe is moving. Astronomers observe motion only as it is related to other motion. Consequently, we do not actually know how fast the world is moving nor in what direction it is going. We only know how it moves in relation to the sun, to the other planets and to the stars. The only way to get an idea of how fast things are actually moving is to take into consideration the ether which is at rest except for a slight phenomenon called ether drift. This moving of the ether is so slight that it will not interfere with our plans.

"I have invented a machine that has the unusual ability to stand still in a world of motion. In reality, it will be pinned to the 'solid' ether. We will sit perfectly still, while the earth moves off and leaves us. Then we will wait just where we are till in the course of its cycle the new planet X comes around and crosses our path."

I STARED aghast while the Professor smiled at me.

"But why do you pick this new planet as the destination?" I questioned. "Why not try Mars or Venus? They are closer."

"They do not cross this same place as soon," he explained. "I have made the calculations. It will take just one year and three days to reach the planet X. A bit of luck that it happens to pass this way so soon."

"One year and three days?" I repeated the words.

"Yes," answered the Professor. "That's the one hard thing about the experiment. We will be sealed up tight in a big metal ball. Unless we take every precaution, the monotony will drive us mad."

"Are we going alone?" I questioned.

"No," he said, "it would be certain insanity for just two people to live a year that way. By all means we must take along a third party, a girl or a woman."

"But whom? You can't get a girl that will consent to go with you."

#### A Passenger Wanted for a Space Journey

"WE must have a girl along," he insisted, "a girl who can play a violin and keep us company through those long, quiet hours. Yes we must have a girl. I think we will take my daughter, Audrey, along with us."

I rose from my chair. I heard a clock striking twelve down the hall below. I could hardly keep my eyes from going shut.

"When do we start?" I asked.

"To-morrow night, about this time if we can arrange it," he said with enthusiasm in his voice. "Yes, I think we can make it to-morrow night."

The next day I helped Professor Witherton with the preparations. He took me to a room adjoining the laboratory. It had always been locked, and I had supposed that it was empty. I had never suspected that it was being used, even for a store room. But when the scientist unlocked the door and led me inside I saw that it was a workshop. The room was musty from



lack of air. From the two small windows at the north side faint shafts of light came through. In the center of the room was an enormous metal ball that nearly filled it. Around it were numerous tools scattered about on chairs and shelves.

The Professor pointed to the big ball. "That's the machine in which we are going to take our trip. I've worked at it a whole year without you knowing. Much of it was done in pieces out in the laboratory. But you could never have guessed that they were meant as parts for this."

He flung open the steel door so that we might go inside. There were three separate compartments. The two small ones had stationary beds made in the wall. One of these tiny rooms was for Audrey. The other was for the Professor and me. The living room was larger. It was fitted with a table, an electric stove and three chairs. There was even a bookcase against the wall, filled with copies of the latest novels. But the things that drew my attention most were the instruments that covered one side of the little room. They were so many and so intricate that I could not even guess what some of them were used for.

Professor Witherton noticed that I was puzzled, "You see, I realized that it would not be wise for us to look at the sights off in space, while we were shut up in here. They would be so strange and frightening that we could not look at them without becoming insane. So I have completely closed the ball, not even leaving a window to look through. In order to make my observations without seeing out, I have invented these instruments. With them I can tell the exact location of the other planets and detect the spacial conditions that surround us. I hope that I will be able to discover some other things of importance before we get to the end of our trip."

#### Oxygen, Provisions, Instruments and Charts for the Great Adventure

I HELPED the Professor load the food and clothes. We put them in vast aluminum chests and stacked them in every vacant corner of the three compartments. We also threw in a small telescope, two rifles, and a violin. Next, we had to load the machine with oil and water. There were vast tanks for this purpose in the lower half of the vessel, underneath the three compartments.

"But how will we get oxygen to breathe?" I asked, when the work was nearly completed.

The Professor explained, "The electricity will be generated in the front part of the machine. We have an oil furnace there which will not only heat our little rooms but will run a steam engine and operate the dynamo. We will generate oxygen by passing an electric current through the water. It will be almost like breathing our own air, only we will have to make it thinner, so that we won't use it all up before the trip is over."

Then came the last and most important part of the preparation. We must install the strange invention, that was to hold this metal ball and keep it firmly fixed

to the ether. This must be done with the utmost skill. I do not know how the thing worked, nor do I know just what it was composed of, although I helped the Professor get it ready. I know this much, however. It was a combination of many wheels of some very shiny, extremely rare metal. These wheels were fastened on bearings and lowered into a solution of a liquid, the composition of which I knew only in part. The Professor was strangely silent on this one point. He would not tell me how his invention worked, and I had no way of guessing. The only two things that I am certain went into the solution are an ounce of mercury and a few drops of radium chloride. The wires were attached to the terminals of the queer invention. It was ready to start us on our journey as soon as we pushed the button.

#### All Ready for the Start

A WILD quiver went through my being as I realized that the great ball was ready. I turned to the Professor, "How are we going to get this thing outdoors? Will we have to chop down that wall to let it through?"

A smile crept over the face of the scientist, "That will not be necessary. We will get inside right here. When we start, the ball will cut its own path. Our vehicle will stand fixed. As the earth moves off, the wall and the vessel will crash. The thick steel will break the wood into a thousand pieces. There won't be any need of an axe."

For a moment I stood stricken with awe. I was thinking of the tremendous grip that the invention must have upon the ether in order to hold us firm, even when a wall was rushing by.

I looked at my watch. It was ten minutes past eleven. I went back into the laboratory to take a last look out the window at the world I had lived in for eighteen years. The night was peaceful, even dreamy in its quietude. Yes, and no other human being in all the earth knew what was to happen except us three.

Presently I felt the touch of warm breath near my face. I turned to see Audrey standing by my side. She made a striking picture there in the shadows, leaning against one of the work tables. Her slender, young figure shown in dull blacks and grays with a hint of the silver as the faint light of a new moon shot across her dress. Her hair was blacker even than the night, and her eyes were large and brown and wondering. I knew that she was thinking of this world and comparing it with the world that we were going to, the world we had never seen.

"Let's go," the Professor shouted the words from the room, adjoining.

We rushed in to take our places in the great ball. Audrey went first, I followed, and the scientist came last. Slowly, with his hand shaking a bit, he drew the door shut. For a second or two we stood there in the center of the compartment. Then the Professor walked over to the button.

"You'd better sit down," he cautioned. "There'll be a shock when we break through the wall."



### At Last the Journey Commences

**W**ITHOUT further hesitation he pressed the switch. Instantaneously there was a mighty crash. The vessel quivered for an instant, then came to rest. I thought that it must suddenly have broken, and left us sitting outside upon the ground.

"Why, it's stopped," I exclaimed. "What's gone wrong?"

"Nothing," grinned the Professor, a little nervously. "See that instrument over there on the wall. We are already far beyond the earth's atmosphere. In fact we are now about twelve hundred miles out in space."

Involuntarily I shuddered, "How far away is this crazy world that we are going to see? At this rate we ought to get there by breakfast time. I thought you said it would take a year."

"It will," replied the Professor, soberly. "The planet X is three hundred million miles from the earth. It takes nearly half an hour for light to travel from that distant world to our own. By merely standing still we can reach there. But we must wait one year and three days."

**I** TURNED to Audrey. In the warm light that shone down on us from the ceiling, I could see that her face was deathly white. Her brown, nervous eyes were fixed on the little clock-like device that registered our distance from the earth. I too was watching it; and, as I looked at the row of figures that grew ever larger, a sudden dizziness possessed me.

"Let's go to bed," I suggested, desperately searching for some escape from my thoughts.

"Yes," agreed the Professor. "It's been a hard day on us all. We must go to sleep and rest up for tomorrow."

During the days that followed I learned to understand why Professor Witherton had said that we must have a girl as a companion. Of all the terrible things that I have ever endured I think those days spent inside that metal ball were the worst. The pale profusion of light from the bulb overhead seemed to drive me mad. Always, too, there was the dull, monotonous rumble of the machinery that generated the electric current.

### The Terrible Sameness Inside the Great Sphere

**S**OMETIMES when the terrible sameness became unbearable, we would turn out the lights and there in the darkness, Audrey would play the violin while we sat and listened. It was strange, sweet music that she played, music that belonged to the earth. That was why we liked to listen.

The Professor spent much of his time in making observations. Strange as it may seem, I think that he really enjoyed the trip. A great admiration for him grew in my mind. I thought of him now, not so much as a scientist but as an explorer—a second and a greater Columbus.

On the morning of March sixteenth, I was awakened by the Professor who seemed to be greatly disturbed

about something. He told me to dress as quickly as possible, that he needed my help. Without any other explanation he left me. My first thought was that something had gone wrong with the machine. But when I listened I knew that it could hardly be that for the motors hummed with that same terrible monotony.

I dressed hurriedly and went out into the living room. The scientist was leaning frantically over a pile of papers making some kind of a rapid calculation. Beside the table stood Audrey. She was watching one of the instruments upon the wall. It was a tiny, red bulb that I had scarcely noticed before. Now as I watched I saw that it was gradually becoming illuminated and growing brighter.

"What is it?" I gasped.

Without moving, Audrey answered me in a firm but excited voice. "It's the warning sign. We are approaching an asteroid."

"An asteroid?" I repeated.

### An Approaching Asteroid Threatens the Voyagers

**A**T that instant, Professor Witherton looked up from his work, "It is the one danger that I was afraid of. But there was no way to guard against it. You see the asteroids are small planets, some of them so little that we cannot see them from the earth, even through the giant telescopes. I knew that some of them might hit us on our way but I thought we would take the chance. This one will reach us in almost exactly twelve minutes. All we can do is to attempt a safe landing."

It seemed to me that the Professor had grown much older over night.

"We must work fast," he explained. "This little world is extremely small, only about five miles in diameter I should judge from its gravity pull that is registered on our gauge. We must release the ball from the ether at just the right instant or there will be certain disaster. If we wait too long our vessel will crash with such a tremendous force that we will be annihilated. If we release our ball too soon the slight gravity of the little world may not be powerful enough to bring us down. We might float on forever propelled by the slight motion of the ether drift. Max, you stand bracing yourself with your hands upon the door. As soon as I press the button, you throw it open. Audrey, you will be the safest in this chair opposite where Max is standing. Do not move or say a word until we are landed. I must be free to watch the red bulb and throw the switch.

As minute by minute passed the crimson bulb grew to a glaring brilliancy. Not a word was spoken; not a muscle moved. I could hear the low rumble of the engine and the generator.

At last it came. Everything seemed to happen at once. At the same instant that the Professor pressed the button and the light overhead went out, a mighty crash such as I have never heard before seemed to shake the metal craft and rend it into pieces. Mechanically, in that same instant I gave the handle of the door a quick turn. Then there followed—

### The Collision with the Asteroid and the Landing

WHEN I opened my eyes I found myself looking straight at the sun that shone directly overhead. But what a queer sun it was. It looked so small and far away. I felt extremely silly as I lay there looking up into the peaceful sky. It is a strange feeling to know that you are in another world. But the oddest thing of all was the odor of sweet perfume that came floating to my nostrils.

Finally I sat up and looked around. I seemed to be in the middle of a wide, flat plain. It was covered with white sand with not a hint of vegetation in sight. Near me sat Audrey, blinking up at the sun with a look of bewilderment on her face.

Quickly I rushed to her, "Are you hurt?"

"No," she laughed, "just a little bruised from falling so hard."

"Where is the Professor?" I asked suddenly.

Together we walked over to where the metal ball lay scattered about in many broken pieces. Much of it was buried deep within the sand. The asteroid was so small that there was hardly any gravity. Things seemed to have no weight. Audrey and I could lift the heaviest piece of steel without any unusual effort. But always there was the terrible feeling as though we were going to fall off of the little world out into space. There under the wreckage we found Professor Witherton. He was still alive but badly injured. We carried him to one side and placed him gently on the sand.

### The Professor Injured in the Collision— Unconscious

WHILE Audrey worked to bring him back to consciousness, I looked around a bit to take my bearings. There was nothing in sight except the smooth reaches of white sand. Noticing carefully the direction in which I was going I started out to see if I could discover anything of importance. I was beginning to realize that our lives depended on the speed with which we could adapt ourselves to this new world. It was no idle curiosity that caused me to leave Audrey and the Professor for those few brief minutes.

I had not gone far when I came to a small brook of clear water. This was lucky. At least we would not die of thirst. Wetting my handkerchief in the stream I hurried back with it to Audrey and her father.

"Here," I said, "put this on his forehead."

Soon the Professor was conscious again, but very weak. When we had made him comfortable, we turned to the wreckage to look for provisions. Much of the food was buried too deep to get; but we found one chest that was only partly imbedded in the sand. We opened it, and Audrey served us a meal of sardine sandwiches and chocolate bars.

After we had eaten, Professor Witherton seemed to feel more like himself. He began to take some interest in the little world around him. He too watched the little sun with an amused expression on his face. He sniffed the fragrant air and cast searching glances at

the flat plain that stretched away on each and every side.

At last he turned to me and said in a rather apologetic manner, "It was very stupid of me not to have pressed the button sooner. If I had only released our vessel from the ether just one hundredth of a second sooner we would have landed with the utmost ease. It would have been like floating down on a feather bed."

"But what would have happened if you had waited one hundredth of a second longer to press the button?"

"Oh," he mused, "there would have been such an awful crash that when it was over there would have been no scientist left to figure out how hard it hit."

### Are There Any Inhabitants on the Little World?

"I DON'T believe this world is inhabited," I said at last. "There are no signs of life."

Professor Witherton sniffed the air, "I think you are wrong. On the contrary I would say that this world is inhabited—yes, and by some very clever creatures."

"What makes you think so," I asked.

Again the Professor sniffed the air, "When you find things any place that are not supposed to be there, artificial things, so to speak, you can begin looking for signs of life. Hasn't it struck you as peculiar that this air should smell like perfume?"

"Yes," I admitted, "and not only that. I also noticed that, as I walked toward that little stream, the smell of perfume grew stronger."

The old light came back into the Professor's eyes. Again, he was the scientist, the great thinker. His mind was focused on the hidden secrets that most of us can not see.

Presently he broke forth in wild enthusiasm, "Max, I've got it. There have to be living creatures on this asteroid. If there weren't there could be no air. This planet is too small to retain a natural atmosphere. The gravity is not sufficient to hold the oxygen and keep it from leaking off, out into space. Under normal conditions the air on an asteroid would be so thin that we could not survive without some other source of oxygen. Somewhere in this strange world there must be living creatures—beings so clever that they can generate their own air and give it a touch of perfume besides."

A vague fear crept into my soul. Living creatures, but what kind!

For a while the Professor sat thinking. At last he said, "I think the first thing we should do is explore this asteroid."

"Yes," I agreed. "If there are any other poor fools stranded in this dizzy little world, I think we ought to get acquainted with them before our sardines and candy bars give out."

"I am too weak to go," the Professor said at last. "Max, you and Audrey must go by yourselves. I'll wait for you here. A few of my instruments were not injured and I can make some calculations while you are gone. You had better take the rifle with you. Let me warn you. Be cautious when you run across the inhabitants of this world."

### Exploring the Little World—The Dunes

I FOUND one of the rifles under a piece of the wreckage. Loading it and placing a few extra cartridges in my pocket I started off over the white sand with Audrey at my side.

People, who have lived all their lives on the earth, cannot realize how strange it feels to be able to give just a slight jump and find yourself soaring up into the air some fifty or seventy-five feet. Neither can they realize how, that in such a small world you can walk in a few hours from the brightness of noonday to the darkness of night.

We had gone not more than three or four miles when we saw that the sun was low upon the horizon. Soon we would enter a region of shadows, the side of the tiny world that was always night. Already we had learned that unlike our own world, this small planet always kept the same side turned toward the sun.

As we passed on we entered a country that became steadily darker as we advanced. I noticed also a chill in the perfumed air. Overhead the stars became visible, but such a queer arrangement of stars they were. Doubtless they were the same that I had seen from the earth; but they did not look the same from this new position. There was no great dipper, no celestial harp, no mighty Orion following the chase. The great bear, the little bear, the serpent and the crown were all vague memories that found no fitting counterpart in these strange heavens.

I noticed another thing that startled me. The desert plains on which we had been walking were replaced by a region of sandy hills. We were no longer in a desert but in a country of dunes. By this time, too, it had grown extremely dark.

Audrey was shivering from the intense cold, for the farther we went the colder it got. I felt the numb sensation that comes to one when he tries to face an arctic night in his shirt sleeves. I threw my coat around Audrey's shoulders and started to turn back when a ghastly sight presented itself.

### A Ghastly Sight—An Inhabitant of the Asteroid

FROM behind one of the great dunes a monstrous head rose above the sand. It was like no creature that I had ever seen before. We stood dumb and unable to move. The creature rose to its full height. It was, I should say, some fifty odd feet tall. Its head was round and bristling with coarse whiskers. It had a large nose and a small mouth. But the most terrifying thing about its features was its eyes. There were three of them instead of two. They were big out of all proportions even for the size of the gigantic head and body. The monster had only two legs but I could not count its hands they were so numerous. It made me think of a mighty spider. And yet as I stood staring, I knew that this was no ordinary beast. It could not be classed with the octopus and the prehistoric dinosaur. I knew, however queer it might seem, that this creature before me, this dweller of the shadows, was a being having human intelligence.

I did not stand long gazing at the giant. Grasping Audrey's hand I started running through the darkness. I did not know in which direction I was going. I could think only of how we were going to get away. As we ran I noticed that the ground was hard and slick under our feet. We were passing out of the sandy region into a country of ice and snow.

### Ice and Snow, a Frozen Sea, and a Great Palace

AT last we came to a halt. The big monster was not following us. But I realized with a shudder that we were now in the very heart of the monster's country. Shivering from the extreme cold, we climbed to the top of a huge ice cake and peered off into the frozen sea. It was then that we first saw the castle of the shadow creatures. It was just ahead of us, a palace larger than any that was ever built on the earth. Its turrets towered higher than the tallest skyscraper, and it spread on into the night so far that I could not see how big it was. Yet the whole thing seemed to be made of solid ice. The dwellers of the shadows were not only inhabitants of darkness. They were also creatures who loved the cold of deadly winter so much that they had built their castle in the very midst of the frozen, icy sea.

Now as we looked, a whole procession of the monstrous beings came marching out of the palace. It was like a parade of giants. The very sight of them made me wonder if I had suddenly fallen asleep, because of the terrible coldness of the place. Maybe I was dreaming. But I knew that it must all be real, for Audrey was pulling at my hand and speaking to me, "Come, Max, quick. We must get back before we freeze to death or before they catch us."

How we ever got back to the sunny side of the asteroid world I do not know. I felt no sense of direction. I did not choose our course by reason. I just ran because it seemed the natural thing to do. My body was numb and stiff. I was only conscious of the cold wind in my face and the touch of Audrey's hand as I half dragged her along beside me.

When we came stumbling up to where the Professor was sitting, he greeted us with one of his good humored nods of the head. "Well, what did you find?"

"It was terrible," Audrey chattered, as she fell down shivering upon the warm sand. "It's so cold and awful."

"It's warm enough here," mused the Professor. "But when you get on the other side, where it's always night, of course it's cold. Tell me, Max. What did you see?"

### The Tale of the Explorers

HE listened intently while I told him about the giant dwellers of the shadows. My description of them seemed to amuse him. He even asked me to draw a picture of one on the back of the candy box in which the chocolate bars had been packed.

After an hour or so, we felt better. The friendly rays of the little sun brought back our circulation and



another meal of sardines and candy put new life into us.

At last Professor Witherton said, "These giant people, who like the cold and darkness so well, are just the kind of creatures that I would like to study. When I get a little stronger we will all go together and find out more about them."

It was about two days, as we count earthly time, before the scientist was strong enough to attempt a walk into the country of the shadow people. Neither Audrey nor I wanted to go, but the Professor insisted. This time, though, we went, prepared. In one of the aluminum chests we found fur coats. Professor Witherton took along his small telescope, and I took the rifle.

"We will go the other direction this time," the scientist directed. "We will approach this castle of the shadow dwellers from the other side."

He led the way with a firm step, in spite of his age and his recent injury. I marveled at the courage of this man. Truly he was a second Columbus; and like that first Columbus he had gone out in search of one world and had found another instead.

### The Twilight Country—Gathering the Mushrooms

I soon saw that the country we were entering was different on this side. As we passed the twilight region that separated the light side of the asteroid from the dark, we noticed that the ground beneath our feet was soft and wet. Signs of wild vegetation were scattered here and there.

"A swamp," muttered the Professor. "Ha, look at the mushrooms."

As he pointed to one side we saw what looked like a lot of giant mushrooms. But they were much larger than any that I had ever seen on earth. As we stood there staring at them, there seemed to be a tremor of the ground, something like an earthquake. We turned and looked. A few hundred yards away we saw a long row of giants coming toward us.

We dropped down behind the bushes and watched them. In single file they marched to the place where the big mushrooms were growing. As we watched, the shadow dwellers suddenly fell out of line and commenced to cut down the queer plants.

The Professor leaned over and whispered in my ear, "These people raise monstrous mushrooms for food. Now we'll know where to go when our sardines are gone."

When the giants had each cut a big armload of the mushrooms they again fell into line and moved away into the shadows toward the castle.

AFTER they were gone we went over to where the plants were growing in even rows as they undoubtedly had been planted by the giants. Professor Witherton, after much whittling with his pocket knife, was able to cut one of the mushrooms off at the stem. We tasted it and found that it had a sweet flavor that must have been quite delicious to the darkness dwellers; but as for me I would rather eat terrestrial mushrooms.

Without further delay the Professor led the way on through the dark swamp in the direction that the giants had gone. It was not long before the wind began blowing about us with that weird, icy touch that I dreaded so much. The soft ground of the swamp was replaced by the ice floor of the frozen sea. As we peered through the intense darkness we could see the bulky form of the monstrous castle looming up before us.

### The Professor Investigates the Great Castle

I expected the Professor to turn back at this point. But he did nothing of the kind. The sight of the huge home of the shadow dwellers seemed to draw him on with new enthusiasm. Cautiously he led the way toward the vast structure. Even now that picture is clear in my mind: the slightly bent form of the scientist creeping stealthily over the ice, his white beard tossing wildly in the wind, and Audrey just a few steps behind, young and beautiful and quivering like a nymph in silhouette. Grim and silent as majestic death itself, the castle stood before us, the most ghastly work of architecture that I have ever seen.

The Professor did not stop until he had reached the solid wall of the building. Hastily he ran his hand over the surface.

"Ice," he muttered. "It will be easy to dig our way under a wall like this."

I would have cried out in protest against such a wild idea, but I was so cold and disturbed in my mind that I thought it would be easier to follow his plans than to argue. So I was soon down on my hands and knees, pounding at the ice with the butt end of my rifle.

Professor Witherton aided me with his pocket knife; and I believe we would have shortly accomplished our purpose if we had been left alone. But just as I had punctured almost entirely through the wall, a cry of terror from Audrey made me look up. There, towering above us was one of the giant dwellers of the shadows. Even now as we looked, the creature reached down three of his long arms and picked us up as though we had been playthings. I shut my eyes and set my teeth, for I thought that death would instantly follow. But to my surprise, there came from the giant a most hideous peal of laughter. He seemed extremely amused at us on account of our size. Still roaring with laughter, the monster rushed to the door of the castle carrying us in his hands.

### The Great Hall of the Palace—Prisoners in a Box

THE room that he entered was like a vast banquet hall. It was dark except for very dim lights that shone from the remote corners of the place. The room contained no furniture, but it was decorated with innumerable, flowing draperies that hung from the highly polished wall and swung to the rhythm of distant music that floated to us through the perfumed air.

On the floor around the wall, sat a whole company of the shadow dwellers. The big fellow who carried us moved into the center of the circle. Holding us aloft, he shouted something to his companions. Then

there arose a rumble of laughter from the seated giants, a roar that seemed to grow more merry the longer they looked at us.

Finally, the creatures began to crowd around. We were passed from hand to hand until we had been examined by the entire host of them. I still had my rifle, but I saw that it would be useless to try to oppose them. At last one of the monsters left the room and soon came back with a box. He put us inside and shut the lid.

We were so cold and exhausted that we just crouched in one corner of the box and waited. Time passed and nothing happened. It seemed that the giants must have forgotten us. At length the Professor attempted to cut a hole in the side of our prison with his knife. It was slow work, but at last the opening was big enough to look through.

"Where are we?" I gasped. "This doesn't look like the big hall that we were in."

"I think this must be the tower at the top of the palace," said Professor Witherton.

The room was not as large as the great hall. Instead of draperies on the wall it had strange windows on all sides. They were not made of glass. They looked more like thin ice plates than anything else. Arranged about the room were many queer objects that looked very much like big machines.

### The Laboratory and Workshop in the Palace

"This is their laboratory and workshop," grinned the Professor. "The smell of perfume is very intense up here. This must be where they generate the air."

There were only two of the giant creatures in the room. They were working at one of the big machines. The Professor continued cutting the box until the hole was large enough to crawl through.

"Follow me," he ordered. "Maybe we can sneak out and get away without being seen."

We crept noiselessly across the room. But though we circled entirely around the wall we found no way to get out. To be sure, there was a door; but it was closed and we could not open it.

### Escape from the Box and the Vision of the Country—The Earth

WHEN he saw that there was no way of escape, the Professor turned his attention to the world outside the castle. Looking below, we could see nothing but the blackness of the shadows. But in the sky we could see the stars as clearly as if we had been outside.

The Professor studied the sky intently with the small telescope that he still carried with him. At length he turned to me and pointed at what looked like a very bright star, "See, that is the earth."

"That!" I exclaimed.

"Yes," he answered. "I even fancy that I can see the dim outlines of North and South American through the telescope."

The sound of the door opening and the footsteps of

giants entering the room, made us scurry back into our box. Directly the lid was opened and we saw one of the shadow dwellers peering in at us. A broad smile was on his face as he took us out and carried us once more to the great hall below. I had no idea what terrible fate awaited us. But I soon found that he had brought us before the assembly to perform.

### The Earthlings Are Made to Perform and Dance

The giant set us on the floor in the center of the vast circle. Then he said something that I could not understand and pushed us playfully with one of his fingers. The Professor seemed to know what was expected of us. Immediately, he broke into a lively jig. But I could see that it was hard on him, for he was not accustomed to such violent exercise.

Before long they had all three of us dancing, and as they watched us the room rang with laughter. After we were too tired to entertain the monsters we were again shoved into the box and deposited in the tower.

The queer creatures did not seem to think about feeding us. I began to wonder if we would not die of starvation. Suddenly our attention was attracted by a startling discovery. When we again looked through the window at the distant earth it looked slightly larger than it had previously.

Professor Witherton seemed greatly alarmed. He looked long and intently at the terrestrial orb through his telescope. Then he bent with fervor over a piece of an old envelope that he had in his pocket and used to figure on. However, he would advance no theory in explanation of the phenomenon.

We lived like this, as prisoners of the shadow dwellers, for about two days, I should judge, although we had no clock and there was no certain method of calculating the time.

### Approaching the Earth

DURING that interval, we found that to our astonishment, the earth was gradually appearing larger before our eyes. There was now no doubt but that the earth and our little asteroid world were approaching each other.

"But what can it mean?" I questioned.

"I am not certain," the scientist answered. "But I think that this asteroid will strike the earth. I begin now to understand the cause of the meteors that have fallen to the earth. Maybe they were just tiny asteroids colliding with our earthly world."

"But," I argued, "they were not as big as this asteroid."

"No," replied the Professor. "This will be the largest and the grandest of all meteors. It will strike the earth like a mighty, flaming ball. People will see its light; they will feel the tremor of the earth when it hits; but when they gather around it, as it lies half buried in the ground, they will not suspect that it was ever the world of the shadow dwellers. The friction with the air will destroy all signs of life."

"And we will be burned along with it," Audrey said and shivered.

### **"We Will Be Burned by the Atmospheric Friction, Unless——"**

Professor Witherton looked grave, "Yes, we will be burned along with it, unless——"

From then on, we were bothered no more to give entertainments for the monstrous shadow creatures. The palace was in an uproar. We were entirely ignored. The great creatures worked like mad, hurrying back and forth from the tower to other parts of the castle. We soon saw what they intended to do. There before our eyes, in the tower room they began hastily to construct what looked like an enormous torpedo. With uncanny skill they worked incessantly.

"They intend to escape to some other planet," said the Professor. "This is a clever race of beings. I half wish I were going along."

As the giants worked, the earth came steadily nearer. Like a great, fiery ball it grew larger than a full moon. It was terrible to see it coming at us like that, terrible and yet pleasant to think that at least we would not have to live on indefinitely on an asteroid.

"I wonder," mused the Professor, "what planet the shadow dwellers will try to reach? Maybe they will steer this mighty torpedo machine toward the planet X."

I did not answer. I was thinking of the wistfulness in the voice of the scientist. He seemed to regret his failure to carry out his original plan.

By the time the machine of the shadow giants was completed, the sight of the earth had become a brilliant spectacle. It seemed to fill nearly half of the sky. I wondered if the monstrous creatures would be successful in getting away.

### **The Asteroid Inhabitants Ready to Escape from the Collision with the Earth**

I SAW them loading their machine with food. They brought vast piles of the big mushrooms and took them through a hole near the bottom of the vessel. Next they hastily broke the ice of the roof and cleared the way for their machine. I saw them scramble madly into the enormous vessel.

"Come," Professor shouted to us. "We can go along as stowaways here in the food compartment. If we stay here we will be killed."

In his excitement he sprang into the hole in the side of the big machine, motioning us to follow. I grasped Audrey by the hand; but before we could reach the opening, there was a loud noise and the rocket of the giants shot off into space. We were all alone on the little asteroid that was soon to become a meteor.

### **The Professor Goes Off in the Giants' Space Ship**

As I looked into Audrey's face in that hour of desperation and despair I felt a great admiration for her. She was brave like the Professor. Even now, as she stood there beside me with the earth hovering over us like a grim messenger of death, there was no cowardly cringing in her attitude. She did not faint, or grow hysterical. Instead, she stood erect; and her voice was steady as she spoke, "If I have to die I

would rather it would be the earth that killed me than anything else."

I think it must have been her courage in that terrible moment that caused me to keep level headed. For one tense minute I pondered over the situation with the deliberate coolness that one seldom can command except in the privacy of his study. Then the thought of the vast, flowing draperies came to my mind.

With a glad cry I fairly shouted in Audrey's ear, "We'll make a parachute. Quick! We must work fast. There's no time to lose."

### **A Parachute to Save the Two Travelers**

WE ran together down the stairs of the castle and into the big hall. The lights in the far corners of the room were still burning dimly as before. But the strains of sweet music were replaced by silence, and the draperies were hanging still upon the walls without a ripple. Madly we snatched one of these vast strips of cloth and dragged it to the floor. Quickly we rolled it into a large bundle. Then we took several of the long rods that held the draperies in place. Dragging these behind us, we hurried out upon the cold, icy sea.

The wind blew harsh and cold upon our faces; but we staggered on. It was not so dark now, for the ball of the earth sent its deflected light down upon us.

At last we reached the sandy desert and the daylight. The sun shown brighter now. It looked almost as large as it does from the earth. Frantically, we attached the poles to the four corners of the big drapery. We brought the poles together at the other end and tied them tightly. Hardly did we get the parachute finished and raised above our heads, before we entered the earth's atmosphere.

### **The Parachute Fills and They Are Saved**

At the speed that the asteroid was going, the friction would have caused us to burn in a few seconds. But as soon as the air from the earth began rushing around us, we felt our feet leaving the planet; we felt ourselves floating gently down, while the meteor shot ahead of us in a flaming streak of fire.

I think there is nothing that gives a person a greater feeling of peaceful satisfaction than to return home to the earth after a few weeks out in space. At least that is the way I felt as Audrey and I settled down on a quiet, western mountainside in the heart of the dear old Rockies. About a mile away, over in the valley we could see the fiery light of the meteor as it lay there half buried, with a reek of smoke rising from it into the air.

Audrey looked wistfully up into the sky, "I wonder where Dad is?"

"Oh, he's O. K.," I reassured her. "He'll turn up some time when you're not looking for him."

"I hope so," she smiled. "Max, he was a wonderful scientist."

"Yes," I said, "and you're a dandy parachute companion and the bravest girl this side of planet X."

THE END



# DISCUSSIONS

In this department we shall discuss, every month, topics of interest to readers. The editors invite correspondence on all subjects directly or indirectly related to the stories appearing in this magazine. In case a special personal answer is required, a nominal fee of 25c to cover time and postage is required.

## One Result of the Change of Cover— A Newsdealer Did Not Know That He Had the Magazine in Stock

Editor, AMAZING STORIES:

I just got hold of my copy of the January, 1933 number of our magazine. Dazed though I still remain, after the magnificent artistry and restraint of your cover for the first issue of the new year, I have recovered enough to take this opportunity of being among the many thousands who must congratulate you—and thank you.

I think perhaps a little incident that occurred at the time I bought my copy will bring out what I mean. I am one of those readers who haunt the newsstands for several days before the date of each new issue; I have a standing order with the largest newsdealer in this vicinity that insures my getting all numbers of both monthly and quarterly. This month, for some reason, the magazine was a little late in making its appearance out this way; but yesterday, when I made my usual request of the dealer, hoping against hope for the big event, he hesitantly turned and spoke slowly.

"Amazing Stories—no, I don't think it's out yet. Funny, too. It should be . . ." Then he straightened in a kind of excitement. "Wait a minute! It certainly is; the thing's so much different this time, that I'd forgotten we had it in. Here you are."

He reached into a tall stack of smooth-looking, gray-blue magazines, and handed me one. There was an interval in which I absolutely refused to believe my eyes. Then I took faith in the miracle. It was true. The cover was different; superbly different; perfectly different!

The dealer couldn't help overhearing my exclamation of astounded surprise. He leaned over my shoulder, fingered the book, and stated a bit proudly that he was getting a larger order of AMAZING STORIES this time, and giving it a bigger and better display. Before I could make answer, he was going on with what was in my mind, agreeing with me that the representative and striking jacket in which the magazine was now encased, would bring more fervent readers than the old style had ever done. As he phrased it, "People who might like that scientific stuff are scared off when they get a load of those covers they used to run. Y'know, I sell a lot of these to doctors and lawyers—but do they act proud of it? I'll say not! They used to grab 'em and run, gettin' kind o' red if they thought anybody saw 'em!"

"Now what happens?" I asked him. He grinned. "Some difference! I'll tell the world—I'm even reading that myself!"

You'll undoubtedly get plenty of letters from readers who'll want to enthuse over the grand symbolism and cubistic unity

of the new cover, and I'm right there to cheer them on; but first, I want to get in my version of the practical side of the matter—so that if you ever have any thoughts about backsliding from the pinnacle established, you'll banish them swiftly! Lord, I can't tell you how perfectly your artist's conception fits in with my own ideas on the subject. It's the kind of thing your readers who have been with you for seven years, had been praying for—but in which their better judgment wouldn't believe.

Thank God for the depression, if it has given you the courage and the impetus to make this climactic change!

Frank K. Kelly,  
2912 Charlotte,  
Kansas City, Mo.

(This is certainly the most detailed account of the effect of the new cover on our readers that we have received and we take great pleasure in publishing it, indicating that it carries the day. We have plenty of courage and impetus, but as you know, courage and impetus does not do everything in this bad world of ours.—EDITOR.)

## A Letter Comparing Two of Our Most Appreciated Authors

Editor, AMAZING STORIES:

In Mr. Schneeman's letter in the December issue, an attempt is made to point out certain similarities between "Invaders from the Infinite" and "Skylark Three" in order to show that Campbell's stories are not as good as Smith's.

The very arguments he uses to prove his point are well suited to show how wrong he is in his opinion.

In what way can arenak and faidon, treated with catalysts, compare with lux and relux and cosmium, which are bound light? Energy should have different properties from ordinary electricity matter; but what reason is there for giving to arenak and faidon, which are electricity matter still, properties such as those of lux and relux and cosmium?

Smith's "Zone of Force" is again in no way comparable to the artificial space used in Campbell's stories. It merely serves to illustrate the fundamental difference between Smith and Campbell.

Smith tells us many surprising things. Speeds many times that of light. Why? How? Oh, merely because he wants to say so. He gives us no explanation of why the Einstein theory and the Lorentz-Fitzgerald contraction become invalid. He gives no explanation as does Campbell, of how it is possible to attain speeds greater than light. Smith mentions accelerations; accelerations, mind you, of twice the speed of light, of  $6 \times 10^{10}$  cm/sec. I always thought that the utmost the human body could stand was ten gravities, 9800 cm/sec. Smith

introduces us into a hopeless confusion of "fourth order" rays, "sixth order," "tenth order" rays, "first magnitude" rays, with magnitude rays. Why? How? What is the meaning of all this mess of orders and magnitudes. Oh, no meaning at all except that Smith feels like saying it.

Campbell, on the other hand, is altogether different. He gives a very good scientific explanation of everything in his stories, of lux, relux, cosmium, molecular motion, space travel, travel in time, speeds greater than light, artificial matter and everything else which I have not space to mention here. Everything he uses in his stories is well explained, without exception.

He makes no unfounded statement, no rash assumptions, and he is, in my opinion and in the opinion of many others, the best science-fiction writer of our times.

Bernard M. Jaffe,  
1146 Intervale Avenue,  
Bronx, New York City.

(You have expressed yourself so clearly and at such length that there is nothing left for us to say. Both the authors whom you cite exaggerate without limit for the sake of their stories. We are sure that Mr. Campbell, who is one of the younger authors, will be delighted with what you say about him, and we can assure you that Dr. Smith's stories have elicited just as much, if not more, admiration than those of the younger author. We consider your letter very interesting and apposite.—EDITOR.)

## The Speed of Light—Its Relation to the Motion of a Body of Which It Is Produced

Editor, AMAZING STORIES:

I have been reading your fine magazine since the sixth or eighth issue, when the "Second Deluge" started, but this is my first letter to you. I wish to express my views on the subject of a limitation to the speed of a moving body.

So many people seem to have the idea that the speed of light is the limit of speed for all things, yet I have never heard their reasons for this belief, and I don't agree with it. For one thing, why pick out light as the limit? It is usually taken to be a wave motion, and there are plenty of other wave motions to choose from. Also, the speed of light is variable. In many transparent substances it is considerably slower than 186,200 m.p.s. Again, in a vacuum, its speed is greater than in air. Rather a variable yardstick, I think.

Also, why should the length of a body reach zero at the speed of light?

But to return to the speed of light, if a spaceship should reach a speed of 100,000 m.p.s. and a searchlight were to

be pointed out of the front of this ship, would not the resultant beam reach a speed nearly twice that of ordinary light? It would still be a beam of light, and the "speed limit" would be raised to 282,200 m.p.s., and so on ad infinitum.

On the other hand, if a body has no length at the speed of light, why can a beam of light exist, even though it is not the usual conception of matter?

I will appreciate corrections of the above.

E. Caldicott,  
1533 St. Nicholas Ave.,  
New York City, N. Y.

(In the letter by Noel F. Waite on this same page you will find quite an interesting discussion on the luminiferous ether—a reference to Professor Miller's very interesting work which is extended over a number of years. He is of the opinion that the extreme doctrines of relativity have to be modified. As you intimate, a beam of light is not the usual conception of matter.—EDITOR.)

#### A Reader of AMAZING STORIES Who Began Early in Life to Peruse It

Editor, AMAZING STORIES:

I have been a reader of AMAZING STORIES for so long that I don't remember where I got my first copy of the magazine, or in what year! But I can assure you that I have missed scarcely a copy, monthly or quarterly, since that time. I believe the magazine was in its first year of publication, six or seven years ago. I was in my thirteenth or fourteenth year. I can remember that my mother thought me some kind of a fanatic and it took quite a bit of persuasion to get her to consent to the monthly purchase of A. S.

I like to think back over the hundreds of stories that we've had in those six years—of some, I remember, perhaps, just the title and a little of the plot. Of others, I can recall the plot and characters, but could not name them if my life depended on it. Do you remember the ill fated AMAZING STORIES ANNUAL? Only one number was ever published—but what a number! Let's see: There was the "Master Mind of Mars," a story that I will remember for many years to come. And the "Face in the Abyss" to which we were promised a sequel. There were others in that issue of little importance. In some of the other issues I remember "The Moon Pool" but vaguely. Some of your readers seem to recall it vividly, but it seemed more of a dream story to me. I'll bet that not more than half a dozen of you remember "The First Men in the Moon," do you? I would like to read that story again. About all I can remember is of huge piles of underground machinery spanned by spider web bridges of steel—of huge ant-like creatures with master minds—and wasn't that a grand story by H. G. Wells, "The War of the Worlds!" And his "Time Machine." Why, no "time" story written can compare with it. When I try to put down all the good stories, I realize that it is impossible!

I suppose, by this time, you realize that I just wouldn't be without AMAZING STORIES. It is absolutely necessary in my

scheme of living. In my next letter, may I make some suggestions and criticisms? I feel that I want this letter to be one entirely of approval.

Pauline Drye,  
8011 N. E. Miami Ct.,  
Miami, Florida.

P. S.—What a radical change in cover design! I hope the next one will be better.

(We see by the name that this is from a reader of the fair sex. It is pleasing to think of a girl of thirteen or fourteen years liking AMAZING STORIES and continuing until she has attained her voting year. You would be surprised if you knew how opinions have differed on the new covers. They have been generally liked, but not by everybody. There was a specific reason for using them as the others seemed too gaudy. We hope you will continue to be a reader for it is a great pleasure to feel that one's efforts are appreciated and we can assure you that it is no small effort to take care of AMAZING STORIES and bring it out to please our many readers.—EDITOR.)

#### Light and the Luminiferous Ether—A Second Letter in This Discussion

Editor, AMAZING STORIES:

I wish to point out some, what I think errors, in the letter written by Mr. F. G. Hehr, in the February issue. The subject being light.

Mr. Hehr mentions light as a vibratory action in a medium which is a part of and interpenetrates and surrounds all matter, meaning I presume ether. He claims ether is a state of matter so finely divided that it cannot be confined in any matter subject to our manipulation. If this were true then light would travel better in steel than it would in air, which is not the case. In fact light is not a vibration of air but air impedes its progress. Any vibratory motion is conducted better and better as the matter through which the conduction takes place becomes denser and denser, high school physics if you please, and presuming ether to be infinitely less dense than steel due to its finely divided state, is it not logical to suppose there could be no motion anywhere within that substance? Can a person walk through a steel plate? The ether would have to be infinitely more dense than steel in order to transmit light over the immense reaches of space, whereas steel does not transmit it over a very short distance, say a thousandth of an inch. Matter would of a necessity be as mentioned in order for Mr. Hehr's supposition to be true. This seems to question even the existence of ether, does it not?

As far as ether is concerned that is but an hypothesis, necessary to explain light by the wave-theory. There is no proof of its existence. By the modern corpuscular-wave theory ether-space is totally unnecessary, since the corpuscles themselves may conceivably transmit the waves. Louis De Broglie, in his "Waves and Corpuscles in Modern Physics" from the Annual Report of the Smithsonian Institution, for 1930, pages 243-253, proves that light is not a wave alone nor corpuscles alone, but a series of waves

bound inseparably to a series of corpuscles.

Mr. Hehr asks, why is a mirror? Can a material surface reflect waves in a very different medium? Well, can a stone wall reflect water waves? I say yes. The reflection of light takes place from all surfaces that do not transform all the light energy striking it into another form of energy, due I think to the distorted space each atom and molecule, not to an even ethereal surface coincident with the surface of the mirror. Ether, according to the ether-space theory has universally constant density. Let me remind the gentleman that mirage is due to varying densities of air refracting light not reflecting it. The Heaviside layer, according to the most accepted theory, is a negative electrical charge coming from the sun and does not revolve with the earth. The earth whose core contains a large percentage of iron revolves under the Heaviside layer acting as a current of electricity travelling in a helix about a core of iron forming a gigantic electromagnet. The magnetic poles of the earth are in the correct position to bear this theory out. Did not Professor Picard also find, when he visited the stratosphere that there was an electric charge at even that low altitude, and was that charge not negative?

Mr. Hehr also states that the velocity of light represents the natural rate of the vibration of ether. I should like to see anyone prove that, granting the existence of such a substance as ether. Let me call to mind the fact that the rate of vibration has nothing to do with the velocity. The rate of vibration combining the velocity in an equation gives the wave length.

To touch on the phase dealing with the ultimate velocity of matter I wish to state my views. The theory of relativity states that the speed of light is the ultimate speed at which matter could conceivably travel. It also states that as an object approaches the speed of light its length approaches zero, and its mass approaches infinity. Here are two statements in direct contradiction. If the length becomes zero at the speed of light the object would have no mass but would become an hypothetical plane. Let me remind you from geometry, "A plane has no characteristics with the exception of flatness extending to infinity." A plane is understood to have no thickness whatsoever.

De Broglie proved that light had corpuscles in its make-up. Now according to the relativity theory each of these corpuscles would of a necessity occupy infinite space since a corpuscle is a particle of mass, and it is travelling at the speed of light since it is light itself. Yet it would have no mass since it would be an hypothetical plane.

With apologies to Mr. Hehr I close after thanking him sincerely for the compliment he paid me in his letter.

Noel F. Waite,  
511 W. Prospect Ave.,  
Angola, Indiana.

(Only one or two hours ago the Editor read an account of Professor Miller's last experiments on the relativity theory



in the domain of the luminiferous ether. He claims that he has shown that the theory of relativity should be modified. He has performed very exhaustive experiments and for many years has been engaged in what may be termed an attack on the extreme relativists. A description of his work has been given in the daily papers and it is very interesting to see, how in spite of what may be called discouragement, he has kept on with his work.—EDITOR.)

**Various Topics Discussed—The New Cover Highly Praised and Delay in Publication of Letters in Discussions Complained Of**

Editor, AMAZING STORIES:

I write the Discussion columns of your magazine, AMAZING STORIES, upon occasions; but this is my first real letter to you. It is, of course, about this pseudo-scientific publication in which both you and I are interested.

Let me first state that I am most pleased with it; do not fear that this is a letter of complaint.

The two new-type covers have been quite extraordinary, and I am enthusiastic for the idea of constant change. The arrangement of the title AMAZING STORIES, and the back band, too, have been different for January and February. And the first cover had one color; the latest, two. Fine! Keep up the variety! Let every issue be a surprise. Make surprises a feature of AMAZING STORIES and it will become more popular than ever.

And, may I make another suggestion? Run more one-page stories. They are interesting. I remember "*A Letter of the Twenty-first Century*," "*Pea-Vine Mystery*," and others of the past; and your new author, Joe W. Skidmore, has a great little tale in "*Souls Aspace*."

I do not in general find AMAZING STORIES' inside illustrations worth while, and feel that a terrible injustice has been done the excellent artist, Muller, but as comments on the subject have had no effect in the past I shall start no argument.

Your book reviews are a highlight.

The Discussions are always interesting, but I would curb long letters of debate between two readers; especially if they be learned readers, or authors, who are apt to use technical terms effusively.

Just one thing, I will say, that is bad about your Discussions Department, it is that it is far behind in the printing of its letters. I correspond with a great number of scientists, and I know they have remarked to me a number of times that AMAZING STORIES ran letters of theirs nine or ten months after they had been submitted. And it has been so with myself. When the new-type cover was effected, I wrote immediately; sent a letter of high and sincere praise. Hoped to find it in the next issue; but instead am today confronted with a letter so old I must confess having forgotten when and under what circumstances having written it!

I suggest you have your editor of the Discussions columns throw out all antedated letters and henceforth print immediately

all correspondence received from the middle of last month onward.

Yours most sincerely,

Forrest J. Ackerman,  
530 Staples Avenue,  
San Francisco, Calif.

(We unfortunately got behind in publishing the Discussion letters and propose after this to give them more space and to catch up with the procession, even if we do publish some old ones, which seem to give very good criticism on our work. The criticisms are good naturally irrespective of when they appear. We are somewhat modifying the distribution of our matter in AMAZING STORIES and we think that you will find a great improvement in the general aspect of the magazine and find that it will be far more readable than it has been in the past as far as the printing is concerned.—EDITOR.)

**Criticisms and Notes on Stories from One of Our Young Readers**

Editor, AMAZING STORIES:

I have been an ardent reader of your magazine for many years and have come to the conclusion that I must step in and prevent it from reverting to the aboriginal type of science fiction magazine one finds ordinarily on the newsstands. In the first place the really great authors of science-fiction, that graced your pages monthly not a long while back, are not writing their usual quota of stories for "our mag." These authors (as I see them) are Stanton A. Coblentz, A. Hyatt Verrill, A. Merritt, H. G. Wells, Edward E. Smith, John Taine, Edgar Rice Burroughs and J. Schlossel. I did not mention John W. Campbell, Jr., because he is the only author I can depend upon to get a good story from. The names above are greatest in the profession. A. Hyatt Verrill hasn't written a particularly outstanding story for AMAZING STORIES for quite a while. I shall say nothing about Stanton A. Coblentz until I read his "*The Man from Tomorrow*" in the Quarterly. But needless to say he hasn't been writing very often. I don't know when I have seen stories by A. Merritt, H. G. Wells and Edgar Rice Burroughs. Since his immortal *Skylark Stories* Edward E. Smith has written nothing outstanding. There is only one John Taine and his style will never be imitated and unless we have more of his stories the Editors will be making a grave mistake. Editors, your magazine is becoming stale and polluted with "small fry" authors, and this must not happen. Give us sequels to such stories as the *Skylark Stories* and "*After Twelve Thousand Years*" and ask these writers to give us new stories. Plead with them, entreat them and threaten them if need be, but whatever you do *get those stories!*

And now for some arnica to soothe those brickbat wounds. Your magazine in its time has published the greatest stories in the realm of science-fiction and should go down in history, and if I am ever a historian it will. My conception of the greatest stories you have ever published are "*The Moon Pool*," "*The Time Machine*" (of course the one by H. G. Wells), "*Station X*," "*After Twelve*

*Thousand Years*," "*White Lily*," another story by John Taine dealing with X-rays and life, and a story by A. Hyatt Verrill concerning an unknown place (in Yucatan, I believe) and giant ants and strange beings. There are others which slip my mind just now and I will speak of them later. Oh yes, and "*The Second Swarm*" by J. Schlossel.

And now to more modern times. Perhaps I should say more distant future. The February issue was very good and the cover was both impressive and fantastic. Tell Mr. Sigmond to stay on the job. As we turn the pages we come to the conclusion of that not so good serial by A. Hyatt Verrill. It is not up to Mr. Verrill's form. Then we come to "*Borneo Devils*" which is a very good story of its type and does remind one of Kipling quite a bit. "*Soul's Aspace*" is good according to literary value but it is not my type of story. "*The Ho-Ming Gland*" is a good story but there are some confusing incidents that perhaps you Editors can clear up for me. How could, after the storm broke, the captives escape from the settlement and reach the undergrowth and how could they live through such a storm, that treated iron walls as glass and so on? That "*The Eternal Mask*" is good goes without saying, its cleverly shaped narrative making it one of the best. I like the poems. Let's have more of them.

I really did not mean that remark I made about the "small fry" authors in AMAZING STORIES, because "our mag" has many fine authors, but one does get tired of the same thing over and over. But, Ah me, such is life in a Goldfish Bowl.

I am fifteen and a follower of science in all of its forms and would appreciate any letters from anybody that could stand my insane prattle.

Well as it is two o'clock (three o'clock for you birds there in New York) I will terminate this "manuscript" and say "Au Revoir," "Adieu" or "What Have You."

Day Gee,  
1411 Broadway,  
East St. Louis, Ill.

(It is curious that some of the most vigorous throwers of brick-bats are readers of about your age. While it would be very charming undoubtedly not to be assaulted by the fractured bricks, it is very good for us to get such letters as yours. Like many others, we agree with, and like fewer others, we welcome solid criticism. Your letter is so full that it hardly needs comment although we always do comment on letters in "Discussions." Any stories by H. G. Wells, which we have published in the past, have been reprints and we have been endeavoring to avoid reprints as a rule, preferring to give new matter, but we are fortunate in holding pretty fast to the best of our authors.—EDITOR.)

**A Short Letter from a Thirteen-Year-Old Reader, with a Very Nice Postscript from, We Presume, His Parent**  
Editor, AMAZING STORIES:

I have been reading AMAZING STORIES for one year now, and I thought I would celebrate by writing.



I have enjoyed immensely the Dr. Jameson stories. Why can't we have some more?

The December issue was very good. How about a sequel to the "Shadow World." "The World of the Living Dead" was about the best serial we have had for a long time.

And by the way, is there actually a Transplutoman planet? I have heard quite a bit about one.

Bill Parry,  
Box 96,  
Pacific Palisade, Calif.

P. S.—Bill is 13 years old—and cannot wait for your magazine to arrive.—A. S. P.

(We wish to thank our young reader for his appreciative letter and we find the postscript especially interesting. It is a remarkable thing that the most severe critics are apt to be the young, so we can assume that a favorable word from a thirteen year old reader is a great compliment. He certainly seems to have a "good grip" as they say. There are strong suspicions of an outside planet, one far beyond Pluto.—EDITOR.)

#### The Question of the Number of Pages in a Fiction Magazine

Editor, AMAZING STORIES:

Another science-fiction magazine I buy recently reduced its price to 15 cents and in content to 64 pages. When AMAZING STORIES came out I was relieved to see that it had not made a similar change. I don't mind reduction in price, but I do mind reduction in quantity. I would rather pay 25 cents for 96 pages than 15 cents for 64.

In the November issue of AMAZING STORIES I found the stories so close in quality that it was hard to place them in order of merit.

Here is my decision:

1. "The World of the Living Dead." Well told and interesting.
2. "Captain Brink of the Space Marines." I hope this is the first of a long-series of tales about Captain Brink.
3. "The Doom of Lun-Dhag." Another Larkin success.
4. "The Man Who Lived Twice." The strangest time-traveling story I've yet read.
5. "The Finger of the Past." Plenty of laughs in this one.

Morey's illustrations vary quite a bit in quality. I have made a list of his best illustrations below.

His best drawings were done for: "Dragons of Space" and "The Flying Threat" in Spring, 1930 Quarterly, "South Polar Beryllium Limited" in August, 1930 monthly, "The Man Who Annexed the Moon" in February, 1931 monthly, "Atomic Fire" and "Too Many Boards" in April, 1931 monthly, "Extra-Galactic Invaders" in Spring, 1931 Quarterly, "The Jameson Satellite" in July, 1931 monthly, "Sky Cops" in December, 1931 monthly, "The Planet of the Double Sun" in February, 1932 monthly, "The Lemurian Documents" in May, 1932 monthly. His best covers on following issues: February, 1931; Spring, 1931 Quarterly; June, 1931; Summer, 1931 Quarterly; March, 1932, May, 1932,

If you will compare them with his other illustrations, I think you will agree with me that they are much neater looking and better done. If only all his illustrations could be as good. I wish he would pay more attention to the faces of the characters. Most of the time they do not look human.

Wesso's best illustrations were done for "Skylark Three" and other stories published at that time.

Jack Darrow,  
4224 N. Sawyer Ave.,  
Chicago, Ill.

(Our hope is that the reception of our magazine by the public will continue to be as favorable as it has been in the past so that there will be no temptation or inducement to diminish the size of AMAZING STORIES. It is seldom that we receive so careful a criticism of our artist's work. We are sure that he will be greatly interested in your remarks.—EDITOR.)

#### Note on a Detail of Colloquial English as Met with in England

Editor, AMAZING STORIES:

Although I have written two previous letters to you which have remained on my mantle-shelf unposted, I am determined that this one at least will reach you, for publication in your Discussions Columns, I hope.

The reason is as follows. On reading the October copy of AMAZING STORIES, I noticed that in reply to one of your readers—Albert S. Trube, you quote the following—"Dr. Smith used very properly slang, in his story, which we consider far more picturesque than the English version, which usually ends a remark with the interrogative pronoun—'What?' which is a typical English habit. You will find this in many English novels." I have rather twisted this paragraph about owing to the small print I am copying, but the meaning is still clear and is not in any way altered.

Now Mr. Editor, what particular "bug" has bitten you to cause you to write that paragraph? The interrogative pronoun "What?" is *rarely ever used*, the few exceptions being when a "silly ass" part is written for a film or play, and observe this. A character such as I have just remarked on is purely the invention of certain types of novelists over here, and has certainly *no* existence in real life.

Having, I hope, cleared up this point, I should like to line up my congratulations to the Staff and authors of AMAZING STORIES for keeping their readers supplied with an extremely interesting and instructive publication.

I have been reading A. S. for nearly three years and have very few "brickbats" to throw, so few in fact, that I cannot remember any off-hand.

I do not follow any particular author as many of your readers do, as nearly all of them are human enough to vary at some time or another. The only exception I make is Doctor Smith whose stories I think are one hundred percent perfect. I am one more of your legion of readers who wishes to pay homage to the pen of that genius who supplied us with the "Skylark" stories and "Spacehounds of I. P. C."

In conclusion, I would like to say that I am eagerly waiting for the day when I see the announcement in the columns of A. S. of another story by Dr. Smith.

John M. Charford,  
41 Lindore Road, Clapham Junction,  
London, England, S. W. 11.

(The interrogative "What?" at the end of a sentence appears in print and may not be used in actual life to the extent that some English novels imply. It appears in one of Canon Benson's novels—he was a son of the Archbishop of Canterbury. One character in the novel perpetually ends his sentences with this word. In admiring and enjoying Dr. Smith's work, you simply follow the lead of a great number of readers. It has been the fortune of very few writers in AMAZING STORIES to win such a degree of appreciation as has been showered on Dr. Smith. He does not write many stories and the ones he does write certainly indicate much thought and reflection.—EDITOR.)

#### A Second Letter from the Same Correspondent

Editor, AMAZING STORIES:

Having re-read my letter to you, I fear that my writing has made me appear a bit dictatorial, or at least "nosey." Please let me state that my one purpose in personally writing you has been to offer a bit of, as I see it, constructive criticism. My main suggestion, again, is that the Discussions Department be brought up to date. I should like that to be acted upon. I make no plea for reprints, for illustrations by Paul, for this . . . for that. I merely want you to know that this reader is appreciative of the upward steps AMAZING STORIES has within the last three months made; and make the one recommendation for the rectifying of a rather outstanding drawback.

Forrest J. Ackerman,  
530 Staples Avenue,  
San Francisco, Calif.

(We wish to assure you that what we want is criticism. We may hope that it may not be too severe, but we can assure our correspondents that we do wish to have them as guides to our work. We consider that letters like yours are written by appreciative readers and believe the more or less severe criticism to be an indirect compliment to our magazine so do not be afraid of hurting our feelings and we shall hope to hear from you from time to time for our Discussions Columns.—EDITOR.)

#### Proof That the Earth Is Round—The Perforation Power of Cosmic Rays

Editor, AMAZING STORIES:

I have been reading your magazine for a little over two years now and like it very much.

Though I am only 15 years old, I am interested in science. Every chance I got in school I took some form of science; chemistry, astronomy, physiology, geology, meteorology, etc. The first two mentioned are my favorites and therefore I enjoyed the first copy I read. One thing that makes your magazine better than others of its kind is the Editor's note at the bottom of the page explain-

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ing clearly something that otherwise might be too deep for the average reader to understand.

There is only one thing you could do to improve on your magazine and that is to add a few more illustrations here and there.

I noticed in your "Discussions" for October that, in answer to Donald Scott's query as to whether the earth was round or flat, you left out one proof that you would have to give a person who made up his mind that the earth was a plane. This is the fact that when the moon is in the earth's shadow during a lunar eclipse you will notice that the shadow is round.

I notice that you once said that nothing we know of could approach the speed of light. The beta particles thrown off by radium travel at almost the speed of light.

I should like to know how many feet of lead the cosmic ray can penetrate. Some say 15 feet, some 8 feet and some give other numbers.

George Cook,  
5719 Alcatraz Avenue,  
Oakland, Calif.

(The circular contour of the edge of the shadow of the earth, cast upon the moon in a lunar eclipse, would be produced if the earth were a flat circle or a disc. We presume this would please Mr. Voliva of Zion City. The cosmic ray is a matter of discussion, especially as to its penetrating power. Sixteen feet of lead is one figure, but Prof. Compton claims that it may vary from eight to thirty-two feet, depending on the latitude of the place, where the observations were made. The divergence of opinions on this aspect of cosmic rays is very accentuated. Professors Millikan and Compton are perhaps the most celebrated investigators.—EDITOR.)

Stories in the February Issue  
Editor, AMAZING STORIES:

I enjoyed the stories in the February issue of AMAZING STORIES and place them in the following order of merit:

1. "The Eternal Mask"—A fine interplanetary tale full of surprises.
2. "The Treasure of the Golden God"
3. "Borneo Devils"
4. "The Ho-Ming Gland"
5. "Souls Aspace"

Of course I enjoyed reading "Discussions."

I am now ready to begin the Quarterly(?), which I have on hand.

Jack Darrow,  
4224 N. Sawyer Avenue,  
Chicago, Ill.

(Your very brief statement is interesting to us. It is very important for the Editor to know just how the readers are impressed by the different stories. We notice that you put an interrogation mark after Quarterly.—We suppose that we know why. We are sure you will enjoy Mr. Coblenz's story in the Quarterly.—EDITOR.)

A Letter Speaking of Omega, the Man  
Editor, AMAZING STORIES:

We have been reading January AMAZING STORIES and found Mr. L. H. Morrow's story very interesting. Please

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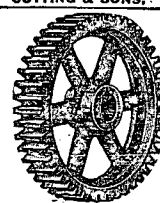
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The new coast-to-coast food hit. You work at home, chips come to you already made. Simply drop into hot grease and they're ready to eat! No complicated work, no experience, no failures! Positive proof of opportunity to make up to \$30 first day. Distributors now making high as \$60 to \$300 a week clear! Not a machine. No need to buy special equipment. Stores do your selling for you. NO LOSS on unsold goods—we take care of it! A phenomenal success! Sells faster than potato chips, do-nuts. Magic Cheese Chips are big, fluffy, giant-size chips bigger than potato chips. Irresistible taste makes them act like an appetizer. The more you eat, the more you want to eat, and you never get filled up! It's a revelation! Nothing like it. Crowds, Maine to California devouring thousands of pounds weekly!

### \$2.00 A POUND PROFIT!

An enormous profit on a small investment! Everyone likes this tasty tidbit any time of the day. 5 and 10 cent bags of Magic Cheese Chips sell like wildfire. Sales often run up to hundreds of dollars daily.

## MEN, WOMEN EVERYWHERE

**Start at Scratch, Build Up to 1,000 Pound a Month Businesses**

Men and women succeed alike—no super-salesmanship—no skill—no canvassing. E. Weiler, California, starts with 10 pounds, uses profits to build up to 30 pounds, then 60 pounds, then places standing order for 150 pounds EVERY THREE DAYS! ALL PAID FOR OUT OF PROFITS! One of the largest bakery chain systems in the U. S. bids for exclusive rights in 200 cities, but we had already allowed exclusive rights to others, except in 9 cities which they grab eagerly. Buy 150 pounds at a clip for each store! J. F. Knudson, living in a small New York city, wires, "RUSH ONE HUNDRED TWENTY POUNDS. OUR TRADE WILL REQUIRE UPWARD OF FIVE HUNDRED POUNDS MONTHLY." Large Pacific Coast concern wires, "INCREASE STANDING ORDER TO ONE HUNDRED FIFTY POUNDS WEEKLY. SHIP TODAY SURE THIRTY POUNDS ADDITIONAL EXPRESS." Long distance calls, telegrams flooding in from everywhere—we've had our plant working twenty-four hours a day to meet the demand! No hard times for MAGIC CHEESE CHIPS!

## YOU DON'T INVEST A RED CENT

until you have sold yourself on the possibilities. You must sell yourself first before we permit you to invest, and our novel plan enables you to decide without cost! Then you can start with \$8.50 investment, put back the enormous profits, building up without another penny investment if you wish!

### EVERYTHING FURNISHED

We furnish everything—advertising, display stands, etc. Don't wait until it's too late to get the FIRST BIG PROFITS in your locality. Mail the coupon at once for complete details and share the enormous profits immediately!

**FLUFF-O MFG. CO., Dept. DD-4 St. Louis, Mo.**

## NEW NOW!

The Smash Hit of the day! The big fad at parties, outdoor games. People everywhere munching 'em on the streets! Takes instantly. Biggest food novelty boom in years!

## VIRGIN TERRITORY EVERYWHERE

Hundreds of successful businesses now operating. Thousands of open territories. Hundreds of cities open—thousands of small towns. Immediate success possible anywhere. Write today.

## SEND for ACTUAL PHOTO-COPIES of ORDERS from MAGIC CHIP DEALERS

### Bonafide Proof of Profits!

See the actual orders with which men and women with small capital start, then see the orders they send out of profits! No claims. We let the facts speak for themselves. Look into this now while you have FIRST CHANCE at the profits in your locality. No obligation. Mail the coupon immediately—later may be too late.



## MAIL FOR COMPLETE DETAILS

**FLUFF-O MFG. CO.**  
Dept. DD-4  
St. Louis, Mo.

Without obligation to me, rush full information at once about Magic Cheese Chips and your proposition where I can make up to \$60 to \$300 a week at home,

Name.....

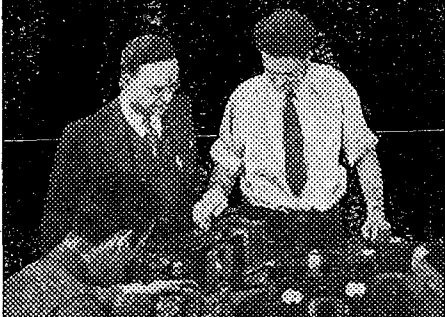
Address.....



# NEW SENSATIONAL OFFER

# Learn RADIO

## PAY FOR TRAINING AFTER YOU GRADUATE



To a few honest fellows I am offering an opportunity to get a training and pay for it after they graduate in easy monthly payments. You get Free Employment Service for life. And if you need part-time work while at school to help pay expenses, we'll help you get it. Coyne is 33 years old. Coyne Training is tested—You can find out everything absolutely free. Just mail the Coupon for My Big Free Book.

### Jobs Leading to Salaries of \$50 a Week and Up

Jobs as Designer, Inspector and Tester—as Radio Salesman and in Service and Installation—as Operator or Manager of a Broadcasting Station—as Wireless Operator on a Ship or Airplane, as a Talking Picture or Sound Expert—Hundreds of Opportunities for fascinating Big Pay Jobs!

### 10 Weeks' Shop Training AT COYNE IN CHICAGO

We don't teach you from books. We teach you by Actual Work on a great outlay of Radio, Broadcasting, Television, Talking Picture and Code equipment. And because we cut out useless theory, you get a practical training in 10 weeks.

## TELEVISION Is Now Here!

And Television is already here! Soon there will be a demand for Television Experts! The man who gets in on the ground floor of Television can have dozens of opportunities in this new field! Learn Television at Coyne on the very latest Television equipment.

### Talking Pictures A Big Field

Talking Pictures, and Public Address Systems offer golden opportunities to the Trained Radio Man. Learn at Coyne on actual Talking Picture and Sound Reproduction equipment.

### Get the Facts

Don't spend your life slaving away in some dull, hopeless job! Don't be satisfied to work for a mere \$20 or \$30 a week. Let me show you how to make Real Money in Radio—the fastest-growing, biggest money-making game on earth! Get my big Free book and all details of my pay after graduation offer. Mail the coupon today.

H. C. LEWIS, President  
Radio Division, Coyne Electrical School  
500 S. Paulina St., Dept. 43-9C Chicago, Ill.

Dear Mr. Lewis:

Send me your big Free Book; details of your Free Employment Service; and tell me all about your special offer of allowing me to pay for training on easy monthly terms after graduation.

Name .....

Address .....

City..... State.....

give us more of his work.

Thanking you in advance, we remain,  
Dr. and Mrs. A. W. Mebert,  
147 E. 8th Street,  
Traverse City, Mich.

(This story possesses what should be the aim and desire of an author of fiction to get into his work—it distinctly possesses atmosphere; the touch of sadness in the desolation of the last days is brought out very impressively. It is certainly a sad but beautiful picture.—EDITOR.)

### Comments on the February Number and Cover

Editor, AMAZING STORIES:

I am not a new reader of your mag., but I am a new writer in the Discussion Department. "The Treasure of the Golden God" by A. Hyatt Verill was finished great. In fact all of the February issue was good. "Borneo Devils" by Murray Leinster was also very good. I didn't like the "Ho-Ming-Gland" by Malcolm Afford very much, but it was O. K. "The Eternal Mask" by Julian M. Kendig, Jr., was the best I have ever read. Say Editor, put Morey back on the cover, this guy Sigmond is no good.

William Wyman, Jr.,  
20-64 31st Street,  
Astoria, N. Y.

(Your comment on the stories you will observe coincides more or less with those contained in preceding letters. Most readers seem to like the new cover. There were many readers who objected to the old ones so what can the poor Editor do?—EDITOR.)

### Notes on Old Issues of AMAZING STORIES

Editor, AMAZING STORIES:  
I have here an old September issue 1927 AMAZING STORY mag. and in comparing this magazine with the present ones I'd say that the old one has more possibilities in actuality.

Also they are more comprehensible to young and old alike having more variety and having stories in them that are more like the one in the present December issue, "The Land Of The Living Dead," which was a dinger. The interplanetary stories that you now publish which abound, are, it seems, run to the ground—the reason being that some of the authors contradict each other in theories; some though must imitate to a certain extent as they still write space travel in ships.

This reminds me of a story in an old issue in which the scientist went to a certain planet in his machine named "The Space Bender."

It was a novel story as it was different. Otis Alderbert Kline doesn't seem to appear in AMAZING STORIES any more; however I have read some of his good work in the *Argosy*. What's happened to Ray Cummings? I have always liked Harl Vincent and Coblenz's stories.

Instead of concrete facts and logic the general run of them seem to tend toward airy romance. This spoils the term called science. I think that good old Mother Earth still offers wonderful things to write about. Since the regular belief is that if there are other planets with any atmosphere on them they surely must

evolutionize the same as earth except for the size which has to do with the speed of evolution, why should any one write a story that, like lots of others, is about romance and adventure more than scientific discoveries, manipulations, etc.

Virgil Luis Van Over,  
Route No. 1, Box 450,  
South Tacoma, Washington.

(One of the best stories that Coblenz ever wrote, is given in our Quarterly. Harl Vincent is constantly writing for us so there are two of the names you mention. Our trouble now is that we are so overstocked that we are in a position to select the best irrespective of authors but it so happens, of course, that those whom we consider our best authors give us the best stories. With room for only five or six stories in an issue, our restrictions are considerable.—EDITOR.)

### A Letter from an English Subscriber

Editor, AMAZING STORIES:

I have intended writing to you for some time to tell you how much A. S. is appreciated here in Bradford, not only by myself, but by many others.

I began reading this magazine in January, 1930, and by watching all the bookstalls, have now managed to get it nearly complete since April, 1927, which shows that the magazine has been well thought of over here for several years.

Until this year, I had to wait for copies on the bookstall, but now a friend and I subscribe for it, and so keep up-to-date.

We don't like reprints over here, such as those in the early copies of Jules Verne, and H. G. Wells, etc., for we can get the books and like your other stories too well, and as for reprints of your own stories, surely if we can, with patience, get numbers as far back as 1927 here in England, the same can be done in America, or do we treasure our old copies more here?

I think that there is no doubt that the stories have improved, but think that the Skylark series; in the 1928 and 1930 issues, are only equalled by Campbell's stories.

I can't understand people grumbling about little mistakes that authors sometimes make, I have an Honours degree in chemistry, and am a Schoolmaster, but I don't feel like pulling a fellow up for every little slip or mistake.

You can guess how much I would like a mechanical educator sometimes, but I do find your stories "different" and far above the other magazines that pretend to give similar stories, as you rarely include a really poor one, for even if I don't like a story, I can sometimes see its appeal to others.

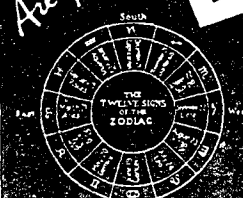

Wishing you every success, and wanting the exchange rate down again, I am,  
Matthew J. Heavyside,  
325, New Hey Road,  
Bradford, Yorkshire, England.

(We have always advocated subscription by readers in foreign countries. In England many readers get their copies from the Woolworth Stores, but we do not know whether this will cover your city. We agree with you about reprints

Will you be rich? Will your wish be fulfilled? Is there a change in store for you? Will you marry? Will you travel? Will you be lucky today? Will you live long?

# Learn Your FATE

as it is written  
in the Lore of the Ages

Do you want to look beyond the veil? To learn the secrets of your innermost nature? To forecast the future? To read your fortune? To discover strange occult powers within you? To explore the realm of the supernatural and the world of spirits?

**Read Your Horoscope**  
Learn what the ancient science of Astrology predicts for you and your friends. What are your lucky days? This amazing book makes it easy to consult the stars at any time.

### Which "Chemical Type" Are You?

Did you know that your face, form and figure, your personality, your weaknesses and abilities are determined by your predominant chemical? Here is an astounding revelation to guide you in life.

### What Does Your Head Tell?

Feel the "bumps" on your head and learn what they mean according to Phrenology. All your characteristics, your special abilities and talents are told by the conformation of your head.

### The "Murderer's Thumb"

Thumb prints tell a revealing story about our natures. This print is the typical "murderer's thumb." Reading your own thumb print and those of your friends is a fascinating pastime.

### Your Handwriting Analyzed

**Shadow's Revels**  
Read how Graphology interprets your handwriting. How Numerology finds hidden, mystic meaning in your name. How to tell your fortune with cards. In this one fascinating book all the lore of the occult sciences is explained in simple terms so that you can apply them yourself for your own information and the entertainment of your friends.

### Don't Marry!

The ancient Mystic Egyptian Table contained in this all-inclusive "book of fate" warns you against marrying if this symbol is indicated. It also answers your other questions about money, success, travel, secret wishes, your friends, etc.

### What Did You Dream?

You will find the occult meaning of every dream explained in this big volume. It interprets 1500 dreams.

○ **PEN the "book of fate"**—and meet your destiny! Learn a thousand secrets about yourself revealed by your face, form and features. Find the answer to your most intimate questions in the Mystic Egyptian Table. Tell your fortune by the Mystic Deck. Read what the stars predict for you. What your name signifies. What your palm tells of past, present and future. The occult meaning of your dreams. What your handwriting reveals.

Learn the secrets of hypnotism, of clairvoyance, of telepathy, of communicating with spirits, of spiritual healing.

### "The Mysteries of Life"

All—all—are revealed between the covers of the most astounding book you have ever read—a book that will startle and electrify you—thrill and fascinate you—hold you spellbound with its weird, fantastic, breath-taking revelations.

### 100 Ways to Tell Your Fortune

You have often wondered about the strange revelations of Astrology, Palmistry, Numerology, Graphology, Fortune-Telling by Cards, Dream Interpretation, etc. What do these occult sciences tell about you? This one great volume of eight hundred pages contains one hundred ways to tell your fortune. It tells you how to perform mystifying feats that will amaze your friends—reveals startling truths about yourself.

### The Key to Success and Happiness

Are you in the wrong job? Learn why you can succeed along certain lines and will surely fail in others. Read the character-analyses of Herbert Hoover, Thomas A. Edison, Charles A. Lindbergh and other famous personages. Learn how to read character at sight—how to choose your life partner—how to influence others—how to make people like you. Learn the mysteries of your own personality.

### Develop Your Occult Powers

Can you hypnotize others? Can you throw your thoughts to others, even at great distances? Can you "see" what absent friends are doing? Can you find hidden objects without searching for them? Can you read minds? Do you know how mystics perform their miracles—pierce their flesh with knives, spikes and pins without any sensation of pain—allow themselves to be buried alive? All these amazing phenomena are explained in "The Mysteries of Life." Here are actual examples of telepathy and clairvoyance, hair-raising experiences with the supernatural, communications with spirits. It is a book of a thousand wonders—filled with knowledge, enlightenment and entertainment for you and your friends.

**800 Startling Pages** No description can suggest the strange, unbelievable, breath-taking things you will find in this extraordinary volume. There is no other book like it. Actually it contains almost three times as many pages as other books selling at the same price which cannot possibly give you the same material.

### Examine It 5 Days

You must see with your own eyes the marvels contained in "The Mysteries of Life." Keep and use this sensational "book of fate" for five days. Then, if you can part with it, send it back and your money will be refunded in full. You take no risk, so mail coupon or write. Do it NOW, while you can get this great \$5.00 volume at the SPECIAL BARGAIN PRICE of only \$2.98.

**RAND PUBLISHING CO.**

DEPT. M-3

40 Clinton Street Newark, N. J.

**THE MYSTERIES OF LIFE**

TEAR OUT AND MAIL

Rand Publishing Co., Dept. M-3  
40 Clinton St., Newark, N. J.

Send me "THE MYSTERIES OF LIFE" by return mail. I enclose no money but will pay postman \$2.98 plus postage on delivery. My Money Back if I return the book in 5 days.

Name.....

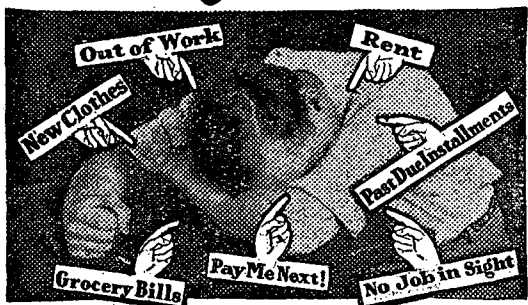
Address.....

Town..... State.....

Note: If you prefer, enclose \$2.98 and we pay postage. Same Money-Back Guarantee. (Outside U. S. remittance of \$3.48 must accompany order).



# Out of a Job?



Send me your name. I'll send new plan by which you can make up to

## \$15 a day on my "Chain Store System"

IF YOU are out of work or if your salary has been cut, if you are wondering where the money is coming from to pay your bills, then you're just the person I'm looking for.

### Go to Work at Once!

I've got a good opening for you *right now*—a wonderful proposition that offers a chance to start right in making up to \$15 a day—full time or spare time—in pleasant, dignified work that will be a revelation to you. Send me your name so I can lay bona fide PROOF before you. I'll show you how Sol. Korenblit, of New York, made \$110 in a single week! H. L. Lennon writes, "After leaving my old job, I went out Friday morning and made \$39.68 in 7 1/2 hours." Mrs. Eva McCutchen, of Oklahoma, quit a \$10-a-week office job and made \$26.55 profit, the very first day. Mrs. Jewel Hackett, of Ohio, cleared \$33 in 7 hours. I have hundreds of letters like this in my office. These big earnings show the wonderful possibilities. And right now, I'm ready to offer you an even better proposition!

### 30 Customers—15 Dollars a Day

You may wonder at making such big money as this even in the face of hard times. But my amazing new plan of operation, the Home "Chain Store" System, is proving a sensation. Housewives are wild about it, because it's just like bringing two "chain stores" right into the home. Saves time, trouble and money. You simply call on regular customers once every two weeks on appointment, get up my Drug "Chain Store", and my Grocery "Chain Store", write down the orders, handle the money and deliver the goods. You get a big part of every dollar we take in as your pay. And with an established Home Chain System, requiring only 30 calls a day, your pay can be as much as \$15 a day, regular and steady.

### Don't Send Money!

I don't want your money. All I want is a chance to lay the facts before you so you can decide for yourself. If you want a sure, steady chance to make \$15 a day—with an old, reliable, million-dollar manufacturing company—then mail the coupon and see how easy it is to start on my Home "Chain Store" System. You invest no money in stock of goods. Earnings start at once. Don't miss this chance. It doesn't cost a penny to investigate. You can't lose by mailing the coupon, so do it today—right away—before some neighbor gets in ahead of you!

Albert Mills, Employment Mgr.

284 Monmouth Ave. Cincinnati, Ohio

Albert Mills, Employment Mgr.  
284 Monmouth Ave., Cincinnati, Ohio.

Without cost or obligation to me, please rush facts about your new "Chain Store" System whereby I can make up to \$15 a day starting at once.

Name .....  
Address .....  
City ..... State .....  
(State whether Mr., Mrs. or Miss. Write plainly.)

## Learn Radio in 10 Weeks

PAY for TRAINING AFTER YOU GRADUATE!  
GET DETAILS OF MY AMAZING OFFER!

Prepare for jobs in Radio Broadcast, Talking Pictures, Television, by ten weeks of practical shop work in the great Coyne Radio Shops, on real machinery and equipment. You don't need advanced education or experience. Free Employment Service for life. Many earn while learning. Mail coupon today for free book which tells you how hundreds have become successful Radio men after taking my training.

H. C. LEWIS, Pres., COYNE RADIO SCHOOL  
500 S. Paulina Street, Dept. 43-80, Chicago, Ill.  
Send Free Radio Book and facts. Tell how I can pay for my course on easy payment plan after I graduate.

Name .....  
Address .....  
Town ..... State .....

with the exception that some are so good that they really deserve it and some excellent science fiction stories passed out of the recollections of the public and deserve reprinting. We suppose you have heard of "The Man Without a Country" by Edward Everett Hale. This has been reprinted and put on the market after many years and it seems to have taken extremely well. We note what you say about a mechanical educator. Don't you think that we could persuade the Technocrats, who want to do away with the Depression, to supply us with a Mechanical Educator and a Mechanical Editor? Perhaps this would make two people happy.—EDITOR.)

### A LETTER OF SUGGESTION AND CRITICISM FROM A TWELVE-YEAR-OLD CORRESPONDENT

Editor, AMAZING STORIES:

I was attracted to your magazine by the Spring QUARTERLY, 1928. That had "The Menace" and "The Sunken World" and others. To my mind that was the best QUARTERLY that you have yet published.

Please print more interplanetary stories, such as "The Beast Men of Cevres" and its sequel "The Call from the Ether." Also, stories of the days to come, such as "Armageddon" and "The Airlords of Han."

Now for a few brickbats: Please do not print any of Jules Verne's stories such as "The English at the North Pole." They are pretty nearly fact. Also, please put more long stories in and fewer short stories.

I borrowed a few of your first editions, and it was interesting to note the difference. "The Second Deluge" was the best story in those, with "Station X" and "A Columbus of Space," ranking close seconds. In your March, 1928, Edition, I thought that "Lakhdal, Destroyer of Souls," was very interesting. On the whole, AMAZING STORIES is the best magazine of any kind that I have ever read.

Please publish a SEMI-QUARTERLY and a SEMI-MONTHLY.

George Patterson,  
293 South Street, Jersey City,  
New Jersey.

(Many of our correspondents object to continued stories, but what is an Editor to do, when he has before him an excellent story, too long to be squeezed into a single issue, and when so many readers want serial stories? You will get many interplanetary stories not the least important of which is "Skylarks Three." You are certainly a good critic for your age, and we will always be greatly interested in publishing letters from our younger readers. The passage of years seems to modify one's views about things and to wear off the sharp edges of criticism. Remember that you have a lot of writers doing their best for AMAZING STORIES and the editorial staff working hard to make it good and whatever our private opinion about it is, the letters which we receive forces us to believe that good work is being done for our readers.—EDITOR.)

### A CAMPAIGN FOR MOVING PICTURES OF SCIENCE FICTION STORIES SUGGESTED. REPRINTS.

Editor, AMAZING STORIES:

I have been reading AMAZING STORIES only four or five months, but I am convinced that it is the best science-fiction magazine on the market. In the January issue I thought "Tum-thak of the Corridors," by Charles R. Tanner, and "Power," by Earl Vincent, were excellent. "The Lemurian Documents" promises to be good. I did not like "The Inevitable Conflict," by Lovering, although he has written some very good stories.

I notice some of the readers criticize your artists; I think they are good. About reprints, the only thing wrong with them is that they usually are very long, and stretch out through six or seven issues. I do not like long, drawn-out serials.

I think AMAZING STORIES should start some sort of campaign for more science-fiction motion pictures. (Some of the other scientific fiction magazines are doing so.) Even the people who do not read scientific fiction would welcome a change from the sex, gangster, and war pic-

### This Amazing Test PROVES The Incredible Strength of METALLIC-X



## Agents—New Discovery! MENDS ANYTHING!

AN AMAZING DISCOVERY is literally taking the country by storm! METALLIC-X binds any materials together as if welded—wood to wood, metal or glass—metal to metal—glass to metal and scores of others. Nothing like it for every kind of repair job or new work. Easier to use and stronger than glue—cement or solder. No heat, acids, clamps or tools of any kind. Unaffected by heat, water, oil or atmospheric conditions. Will not crack, soften or dry out—and wild horses cannot tear it apart! No wonder it sells like greased lightning wherever introduced!



FURNITURE AND FIXTURES



AUTOMOBILE RADIATORS



STEAM PIPES AND PLUMBING

## MAKE UP TO \$150 IN A NEW WAY!

Agents and distributors everywhere are simply coining money with METALLIC-X! Unique new plan combines selling through stores and direct to homes. Only 50 stores averaging but 3 tubes a day pay \$120 a week and, with home sales added, \$150 to \$175 a week is relatively easy. Automatic repeat sales and lack of seasonable slumps assure steady year-round profits that really are PROFITS. Mail the coupon for full description of this amazing discovery and details of sensational new plan.

### FREE SAMPLE

See what Metallic-X will do and you know at once what makes it the sensational seller it is. The coupon below brings you a FREE SAMPLE of work done with Metallic-X. Send for it RIGHT NOW and see for yourself!

LUX-VISEL, INC. Dept. D-5931, ELKHART, IND.

LUX-VISEL, Inc., Dept. D-5931, Elkhart, Indiana.

Without obligation, send me FREE sample of work done with Metallic-X and details of BIG-MONEY selling plans.

Name .....  
Address .....  
City ..... County ..... State .....

SEX BOOKS

**3 for 50¢**

14,000 - word adult paperback books, 50¢ each, or all three for 50¢. In plain package. Order by number. No. 1—"Sex for Married Men." No. 2—"Women's Sex Life." No. 3—"Sex for Married Women." If you want our book No. 4—"Prostitution in U. S." price is 50¢ per copy, or if ordered with the other books named here, the price for all 4 is \$1.00.

FRENCH CO., Box 712, Indianapolis, Ind.

Gentlemen:—Enclosed is ..... Send your books No. 1—, No. 2—, No. 3—, No. 4—, in plain sealed package to

Name .....  
Address .....



res. Universal's "Frankenstein" and "The reaction" are two which are now out, but it will probably be ten years before another one will be produced if nothing is done to encourage em.

I have about fifteen good scientific fiction magazines that I would like to exchange for like issues of AMAZING STORIES. Won't someone interested please write me?

Emil Petaja,  
Box 85,  
Milltown, Mont.

(We are glad that you appreciate our artists. Your personal feeling is that we are very fortunate in having their service. In the first part of AMAZING STORIES a great many reprints were given and we feel that far too many appeared in its pages. We hope that you will succeed in making some exchanges of your magazines. Back numbers of AMAZING STORIES are in continual demand.—EDITOR.)

DISAPPROVES OF THE MAJORITY OF OUR STORIES. THE CORRESPONDENT IS AN INVESTIGATOR.

Editor, AMAZING STORIES:

I have been a reader of your magazine for several years, and on the whole a well satisfied one.

The majority of your stories are, from a practical scientist's point of view, mere drivel. A few are excellent. Many carry an exaggeration of known phenomena to an imaginative conclusion that is delightful. A few seem to be written by men who have a thorough knowledge of physical science. Some of them have given me food for thought, and have suggested possibilities. On the whole, these few have been on such a high plane, that I would willingly wade through a much worse average to get them. The worst feature is the illustrations. Most of those signed by Wesso and Forey are painful. They may be good artists, but they certainly know nothing of mechanics. For one, would prefer no illustrations.

However, to come to the point. Some time ago, I gave up my laboratory to accept a position with the Federal Government that allows me more time for private research. Electrochemistry has long been my hobby, and one that has paid good dividends. It is also a little known field, and one that some day will make AMAZING STORIES look tame.

About two years ago I read a story called "The Bridge of Light," in one of your quarters. The author I think was Verrill, although I am not sure. In this story was a suggestion, theory, idea, or whatever you want to call it, that just fitted some unusual results that I was then puzzling over. At any rate this fanciful suggestion gave me the key to a really amazing discovery. I am working at present to adapt it to commercial use, as I much prefer money to glory.

My principal reason for writing this is to discover the author's real name and address, as I wish to thank him for a very good story and a valuable suggestion. I would like very much to do so and would appreciate your aid. I would also like very much to secure another copy of this story if possible. "The Bridge of Light."

In conclusion let me say that there is a great deal of fact and real respectable science in your magazine. And that it is mixed with just enough fancy to make on the whole very enjoyable reading. I have been a steady reader for some three years, and expect to remain one.

Lester L. Huffman,  
708 James Street,  
Syracuse, N. Y.

(It is curious for one who says he has been a reader and a well satisfied one of our magazine for several years, to use the term "mere drivel" in parts of the story. The author of "The Bridge of Light" was A. Hyatt Verrill and any letter addressed to him in our care will be forwarded by us. You might address our circulation manager or look through the magazine for some one who has back copies of the magazine for sale. The story was in the Fall Quarterly of 1929. It is always a pleasure to find our magazine appreciated by a practical working scientist. Mr. Verrill is definitely back with us, and a quantity of his work will appear from now on.—EDITOR.)



## HYPNOTISM

Would you develop that strange power that fascinates men and women, directs their thoughts and desires and makes you master of every situation?

Life flows full for those who know the secrets of hypnotic influence; for those who develop their magnetic powers. You can learn at home, cure disease and bad habits without drugs, drive worry and fear from your mind, improve your memory, overcome domestic difficulties, give thrilling entertainments and develop a powerfully magnetic will power that will enable you to overcome all obstacles to your success.

You can hypnotize people quick as a flash, put yourself or others to sleep at any hour day or night; banish pain and suffering. Our free book "The Philosophy of Personal Influence" explains exactly how you can acquire this power and use it to better your position in life. It is endorsed by ministers of the gospel, lawyers, doctors, business men and society women! Though its benefits are beyond price it costs you nothing. We give it away to advertise this institution. Write for it today. (On letters use a 3-cent stamp).

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## Stopped His Whiskey Drinking

Home Treatment That Costs Nothing To Try



We're All Happy Now—says Little Mary Lee, because Mother found how to stop Papa's Whiskey Drinking (and we want every woman to know about it).

Odorless and Tasteless—Any Lady Can Give It Secretly at Home in Tea, Coffee or Food.

If you have a husband, son, brother, father or friend who is a victim of liquor, it should be just the thing you want. All you have to do is to send your name and address and we will send absolutely FREE,

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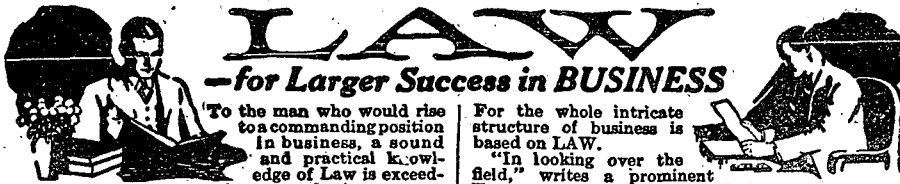
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Thousands of satisfied tire users all over the U.S.A. will vouch for the LONG, HARD SERVICE, under severest road conditions, of our standard brand tires reconstructed by the ORIGINAL SECRET YORK PROCESS. To introduce this genuine tire value to you, this big responsible company offers, ABSOLUTELY FREE a modern tire gauge with each 2 tires ordered—now take pressure through side wall of tire in a jiffy—no pump—no dirt. OUR 16 YEARS IN BUSINESS makes it possible to offer tires at LOWEST PRICES in history. Guaranteed to give 12 months' service.

**Don't Delay — Order Today**

Size	Tires	Tubeless	Size	Tires	Tubeless
30x3	\$1.90	\$0.75	28x4	\$2.00	\$0.95
30x3 1/2	1.95	0.80	28x4 1/2	2.10	0.95
32x4	2.70	0.90	28x5	2.10	0.95
32x4 1/2	2.75	0.95	28x5 1/2	2.10	1.10
32x5	2.85	1.00	28x6	2.10	1.10
32x5 1/2	2.90	1.05	28x6 1/2	2.10	1.10
32x6	2.95	1.10	28x7	2.10	1.10
32x6 1/2	3.00	1.15	28x7 1/2	2.10	1.10
32x7	3.05	1.20	28x8	2.10	1.10
32x7 1/2	3.10	1.25	28x9	2.10	1.10
32x8	3.15	1.30	28x10	2.10	1.10
32x9	3.20	1.35	28x11	2.10	1.10
32x10	3.25	1.40	28x12	2.10	1.10
32x11	3.30	1.45	28x13	2.10	1.10
32x12	3.35	1.50	28x14	2.10	1.10

**Other Sizes**  
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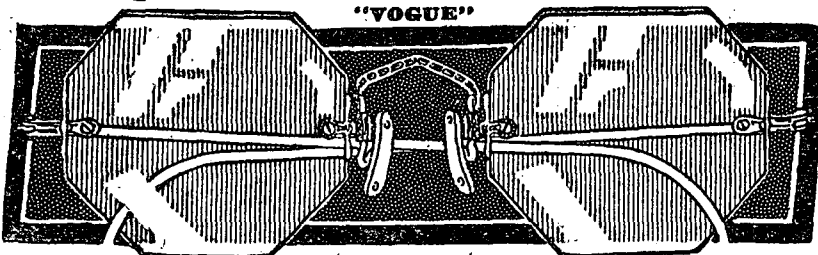
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I want to try your glasses on 10-day free trial.  
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## A LETTER FROM THE PACIFIC COAST—THE MAGAZINE AND ITS COVER BOTH COMPLIMENTED

Editor, AMAZING STORIES:

We scientists know from axioms gain from long perusal of "our" magazine that "every action there is an equal and opposite reaction." But it doesn't hold true in this case, because the reaction is not opposite the action, and, in addition, it's greater! I you've secured A. Sigmond to put a new type of cover on AMAZING, you've made Science Fiction prominent, and I'm telling you that whole set of printer's capitals, Edmond Hilton's supply of exclamation points, and faded typewriter ribbons couldn't begin to do me due justice to the describing of my enthusiasm for the "new" AMAZING STORIES.

As a matter of fact, I am so delighted with the improvement that I'm writing before having read a single story; ay! even breaking all tradition, not having even glanced at the Discisions Columns.

A. Hyatt Verrill's return is another crowning achievement. Too long has he been missing. Bob Olsen is always welcome, and I have faith in Morrow's "Omega, the Man" being great story, having read other of his work.

Going back a few months, "The World of the Living Dead" was a most interesting, worthwhile serial; "The Finger of the Past" was captivating with its sly humor; and "Captain Brink of the Space Marines" was different from Bob Olsen, proving that he is master of phases of stuff. The Capt. Jinks song in the latter was a "kick". "No More To-morrow" was all that was prophesied; "Shadow World" and "The Call to Migrate" were the most meritorious of their issue, and the form calls for a sequel.

Forrest J. Ackerman,  
530 Staples Avenue,  
San Francisco, Calif.

(We are sure the advocates of the new type of cover will be delighted with your letter. It is said that the cover alone is not enough to make a man into a monk, the new cover will not injure your old friend AMAZING STORIES. We have lots of improvements in mind, but when they will come off is quite uncertain. Especially is it interesting to find "Omega" receiving a tribute of praise (even in advance)—we are sure that it deserves it, although number of writers have objected to sundry things in it. We get many (not so many, perhaps) scolding letters so your epistle with its good-natured text and appreciation of what we are doing, or trying to do, is very agreeable for an Editor who is only human.—Editor.

## A PLEASANT LETTER FROM AN AUTHOR, "OMEGA" HIGHLY PRAISES "THE POOL OF DEATH" ALSO COMMEMORATED

Editor, AMAZING STORIES:

This time I'm not writing to ask about some of my manuscript or any sordid, business detail. But I grasp my pen to congratulate you and Lowell Howard Morrow!

For, "Omega, the Man," by Morrow is gem of science-fiction. I do not know Morrow but feel we shall hear much more of him.

It's a splendid and well written manuscript with a beautiful message of man's courage and philosophy.

Well done! Morrow, you erudite and talented cuss. I envy you a bit!

Good old reliable Bob Olsen (my fine friend and neighbor) gave me his usual thrills and science with his "The Pool of Death". January '33 issue is exceptionally fine.

The mission of AMAZING STORIES is to give people science, philosophy—and most important to make us think—and wonder—and wonder.

For truly—"The beginning and end of knowledge is wonder." (Coleridge).

Luck and success to you—vast as space!

Joe W. Skidmore,  
1909 Weepah Way,  
Laurel Canyon,  
Hollywood, Cal.

(Mr. Skidmore is definitely and certainly one of our most highly appreciated authors and praise from him means a great deal and we are particularly glad to see it given to "Omega". It's a good quotation from Coleridge: A man who ceases to wonder at the things in the world around us is an unappreciative observer and the man who is beyond surprise will in all probability fail as an original scientist.—Editor.)



# Sensational Tire Repair Discovery!

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Repairs Worn Spots for a Few Pennies

**Pays AGENTS**  
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**Spreads on Like  
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New, sensational discovery called SPREAD-A-TREAD. Covers old worn tires with a new, tough, flexible, long-wearing tread for as low as 75c. Repairs a worn place for a few pennies. At least 2000 additional miles GUARANTEED. Many Spread-A-Tread applications wear 6,000 to 12,000 miles. An amazing opportunity for agents to make up to \$6.00 in an hour. Rich territories now being allotted—act today to reserve yours.

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Two Weeks**

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## MAIL COUPON FOR FREE SAMPLE

Mail Coupon for FREE demonstration sample showing toughness and flexibility and special agent's exclusive territory offer. I will show you how other men are making up to \$6.00 in an hour with this amazing product that is bought eagerly by owners of motor cars and trucks. Mail coupon today. Wm. Stewart, President.

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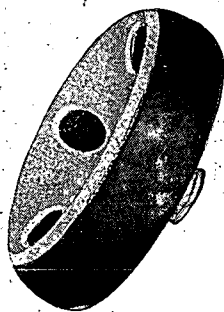
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I am interested in SPREAD-A-TREAD. You may send me the Free Sample to prove its flexibility and toughness, also tell me how other men are making up to \$6.00 in an hour.

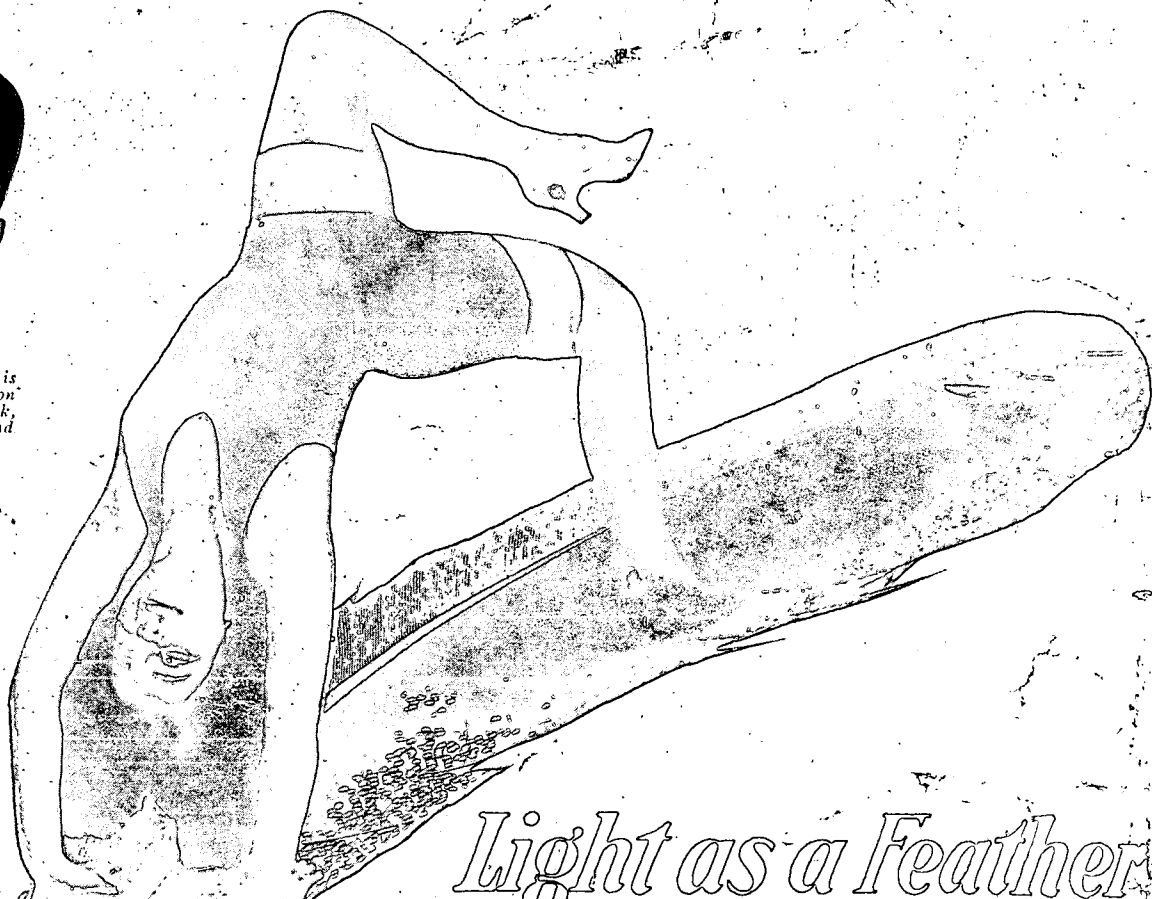
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An Ohio Scientist is now helping Nature rescue thousands of rupture victims. No more cruelty. No more cumbersome contraptions of, ancient times. His new appliance works without embarrassing bulk, without leg straps or springs or bars or leather. You will be astonished at its tiny size, its revolutionary coolness and convenience. His test offer actually includes an extra appliance sent to you absolutely FREE. Mail coupon today for the most astounding rupture information you ever read. It is FREE and will come in plain cover.

**N**OW rupture victims can abandon the needless pain and discomfort of torturous trusses. Science has at last developed a tiny, comfortable appliance of tremendous interest for every rupture sufferer. This device is called "Suction-Cell Retainer." It has been developed and perfected as a result of having made more than a million rupture appliances. With it comes an astounding natural help for putting real strength into the abdomen, so as to aid Nature in preventing recurrence of rupture.

Results with Suction-Cell Retainer are often so remarkable, so quick, so simple, that you, too, may marvel. It has no leg straps. It expands and contracts as easily as your own flesh. When you walk, run, bend, or exercise it tends to squeeze itself, not the part of your body it rests against. It is so entirely lacking in bulk and weight that even some rup-

tured men's wives have not known they were ruptured:

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Suction-Cell Retainer must give the results that you expect or you simply return it. If your rupture is not actually and positively reduced in size during the free trial we allow, send it back and demand the return of your deposit as agreed. If 30 days' trial are not enough, write us and we will extend the time to 60, 90 days or even four months if you desire.

Think what the above words promise, not only in new comfort and immediate relief, but also the possibility of ultimate FREEDOM! No system like this ever devised! At last, comes sensible relief. Pleasant. Solid comfort. Natural way. Reasonable in price. And you don't need to wait forever for results!

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